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SUPREME COURT. U. S.

No. 678

IN THE

United States Court of Appeals

For the Second Circuit

Appeal No. 24207

TECHNICAL TAPE CORPORATION,
Plaintiff-Appellant,

vs.

MINNESOTA MINING AND MANUFACTURING COMPANY,
Defendant-Appellee.

ON APPEAL FROM THE DISTRICT COURT OF THE UNITED STATES FOR THE SOUTHERN DISTRICT OF NEW YORK

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Judgment Below

[Record pages 5924-5927]

This cause came on to be heard by the Court, sitting without the intervention of a jury, in a trial of five weeks' duration, was argued and briefed by counsel; thereupon, upon consideration of the entire evidence, stipulations, exhibits, and the entire record in the case, as well as the briefs and arguments of counsel for the respective parties, and the Court having heretofore made and filed its Opinion to stand as Findings of Fact and Conclusions of Law under Rule 52(a) as the same appears of record herein, and which Opinion is made a part hereof by reference thereto;

IT IS, THEREFORE, ORDERED, ADJUDGED AND DECREED, as follows:

1. This Court has jurisdiction of the parties and of the subject matter stated in the Complaint, Amended Complaint and Supplemental Complaint and in the Counterclaim of the defendant.

2. United States Letters Patent No. 2,177,627 issued to the defendant, Minnesota Mining and Manufacturing Company, on October 31, 1939, upon the application of Richard Gurley Drew, was in all respects duly and lawfully issued and is good and valid in law as to every claim thereof except claim 9 as to which no adjudication of validity is made, no infringement of said claim having been found; and is enforceable in all respects by the defendant as sole and exclusive owner of the entire right, title and interest therein.

3. The plaintiff, Technical Tape Corporation, since prior to the time the defendant's Counterclaim was filed herein, has manufactured, used and sold transparent and colored non-fibrous, film-backed, pressure-sensitive adhe-

sive tape (as detailed in paragraphs 5 and 9 of the Agreed Statement dated November 16, 1954 and filed herein, and as exemplified by Defendant's Exhibits G, H, I, J, K, L, M, N, O, P, Q, DDDD, EEEE, D6 and E6 herein) in infringement of claims 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15 and 16 of said patent.

4. The defendant and counterclaimant has not been guilty of inequitable conduct; has not come into Court with unclean hands; and is not barred in any respect from enforcing the said patent.

5. A Writ of Injunction is ordered issued out of and under the seal of this Court directed to the plaintiff, Technical Tape Corporation, permanently enjoining and restraining, until the expiration of the patent-in-suit, it, its officers, agents, servants, employees and attorneys, and those persons in active concert or participation with them, who receive actual notice of this decree and order by personal service or otherwise from directly or indirectly making, using, selling, offering for sale, or directly or indirectly causing to be made, used, sold or offered for sale any transparent or colored non-fibrous, film-backed, pressure-sensitive tape or sheeting the same as the pressure-sensitive adhesive tape or sheeting exemplified by Defendant's Exhibits G, H, I, J, K, L, M, N, O, P, Q, DDDD, EEEE, D6 and E6, or any other transparent or colored non-fibrous, film-backed, pressure-sensitive adhesive tape or sheeting utilizing or embodying the invention of claims 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15 and 16 of said Letters Patent No. 2,177,627, or from in any way or manner infringing upon any of said claims of said Letters Patent, or from contributing to the infringement of or encouraging, inducing or aiding or abetting the infringement of such Letters Patent in any way or manner whatsoever. The Clerk of

this Court is directed forthwith to issue out of and under the seal of this Court its Writ of Injunction directed and commanded as herein provided.

6. The defendant and counterclaimant, Minnesota Mining and Manufacturing Company, shall have and recover from the plaintiff, Technical Tape Corporation, the damages which it has sustained by reason of the aforesaid infringement; and the question of whether damages shall be increased pursuant to 35 U. S. C., Section 284, because of the nature of such infringement, is deferred until the coming in of the Master's report.

7. This cause shall be referred to Dwyer S. Shugrue, Esq., 12 East 41st St., N. Y. C. as Special Master, to ascertain the damages adequate to compensate the defendant for the plaintiff's infringement.

8. The defendant shall recover of the plaintiff the taxable costs of the defendant incurred in this suit, and such costs and expenses as may be incurred by the Special Master in connection with his services herein; and the defendant shall have judgment and execution therefor.

9. Defendant's application for attorneys' fees is denied.

10. The plaintiff's Complaint, Amended Complaint and Supplemental Complaint are hereby dismissed at plaintiff's costs.

Enter:

/s/ ALEXANDER BICKS,
United States District Judge.

July 26, 1956.

Opinion Below

[Record, pages 5869-5896]

BICKS, *D. J.*

Technical Tape Corporation, hereinafter referred to as "Tech Tape", seeks a judgment declaring that United States Patent 2,177,627 is invalid and not infringed by the product it manufactures and markets under the trade name "Tuck". Minnesota Mining & Manufacturing Company, the defendant, which will be referred to as "3 M", has counterclaimed for an injunction against further infringement and damages.

The patent has been subjected to judicial scrutiny by the Courts in the Seventh Circuit and consistently upheld. *Minnesota Mining & Manufacturing Company* v. *International Plastic Corporation*, 62 F. Supp. 34 (N. D. Ill. 1945) aff'd, 159 F. 2d 554 (7th Cir. 1947); *Minnesota Mining & Manufacturing Company* v. *Pax Plastics Corp.*, 65 F. Supp. 303 (N. D. Ill. 1946) aff'd, 159 F. 2d 554 (7th Cir., 1947); *Minnesota Mining & Manufacturing Company* v. *Neisner Bros., Inc.*, 101 F. Supp. 926 (N. D. Ill. 1951) and 122 F. Supp. 752 (N. D. Ill. 1954). Plaintiff's procedural agility [See *Minnesota Mining & Manufacturing Co.* v. *Technical Tape Corp.*, 123 F. Supp. 497 (N. D. Ill. 1954); *Technical Tape Corp.* v. *Minnesota Mining & Manufacturing Co.*, 200 F. 2d 876 (2d Cir. 1952)] has been rewarded with an opportunity to litigate its claims before a tribunal unfettered by its own prior determinations.

The patent was issued on October 31, 1939 to 3 M as assignee of Richard Gurley Drew, one of its employees, and will be referred to as the "Drew Patent". The application was filed February 18, 1938 as a division of a co-pending application filed June 10, 1933 and was in part a continuation of a co-pending application filed May 1, 1931. The invention relates to "adhesive sheets having a backing with a non-fibrous surface (such as normal or waterproofed

films of regenerated cellulose) and a coating of normally tacky and pressure-sensitive adhesive united thereto. While not limited thereto, the invention relates especially to transparent adhesive sheets, to adhesive sheets in the form of adhesive tapes which may be sold in stacked or coiled form, and to adhesive sheets or tapes which are well adapted to the sealing or securing of wrappers composed of non-fibrous lustrous cellulosic films and the like". The specification recites that "[A]n object of the invention is to provide a unified adhesive coating possessed of such coherence in relation to adhesiveness and so firmly united to its backing that the adhesive sheet may be stripped from smooth non-fibrous surfaces (not possessing special chemical affinity for the adhesive), to which it may have been temporarily applied, without offsetting of adhesive material. Hence the adhesive coating may be termed 'non-offsetting', and this expression designates an important physical or physico-chemical property or characteristic of the adhesive coating, namely, that its coherency is greater than its adhesiveness."[1] 3 M markets the invented article under the well-known mark "Scotch Brand Cellophane Tape".

Succinctly, the issues in this case are: (1) Is the Drew Patent valid; (2) If valid, has it been infringed by Tech Tape; and (3) Assuming validity and infringement, has the conduct of 3 M been such as to disentitle it to relief against Tech Tape.

Plaintiff founds its claim of invalidity principally on the grounds that: (i) the alleged invention is not a patentable advance over the art because it required no special skill nor any "inventiveness".

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[1] A detailed description of the discovery disclosed in the patent and the inventor's claims are set out at length in the opinions first cited in the text; a repetition thereof would unduly and unnecessarily prolong this opinion.

(ii) the product claimed in the patent was patented and described by others in printed publications in this and foreign countries before the claimed invention thereof by Drew.

(iii) the alleged invention of the patent was (a) patented or described in a printed publication in a foreign country and (b) in public use more than two years prior to its filing date;

(iv) what the patent discloses as invention was developed by others;

(v) claim 9 of the patent defines an inoperative and useless product and was deliberately included, wherefore acceptance of the patent with such claim was not without deceptive intention;

(vi) what the patent discloses as invention is the same as is covered by the Drew Masking Tape Patent 760,820; and

(vii) the specification of the patent lacks the full, clear and concise description required by 35 U. S. C. A. § 112. These contentions will be treated seriatim.

The first ground of alleged invalidity is the not uncommon one urged against an article which is a plurality of well-known elements. It is a mere "aggregation", plaintiff argues, of cellophane and an adhesive—neither of which Drew claims to have invented—in which the two elements retain their original characteristics and perform exactly the same functions they possessed and performed before being brought together in the assembly. 3 M, on the other hand, contends that the amalgamation produces a new article, not then previously in existence, possessing qualities and utility different than the components standing alone. Novelty for the adhesive or of any ingredient thereof per se or of the film backing per se is not claimed, but

rather in the combination whereby a new article is produced. To discuss this issue in terms of "aggregation" or "combination" can lead to nothing but confusion. See, *A & P Tea Co.* v. *Super Market Corp.*, 340 U. S. 147, 151 (1950). The efforts of the industry to find an article of the utility possessed by the one described in the Drew Patent, the general need and extensive market for such article and the availability of materials to produce it furnish a more helpful guide.

As Judge Learned Hand observed in *Safety Car Heating & Lighting Co.* v. *General Electric Co.*, 155 F. 2d 937, 939 (2d Cir. 1946): "In appraising an inventor's contribution to the art, * * * the most reliable test is to look at the situation before and after it appears. * * * Courts, made up of laymen as they must be, are likely either to underrate, or to overrate, the difficulties in making new and profitable discoveries in fields with which they cannot be familiar; and, so far as it is available, they had best appraise the originality involved by the circumstances which preceded, attended and succeeded the appearance of the invention. * * * [T]his approach is more reliable than a priori conclusions drawn from vaporous, and almost inevitably self-dependent, general propositions."[2]

DuPont commenced marketing normal cellophane in 1924 and moisture proof cellophane in 1927. The latter type was especially adapted to the packaging of food products where protection against moisture loss or absorption was desired. That purpose, to be accomplished effectively,

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[2] See also *Landis Mach. Co.* v. *Parker-Kalon Corp.*, 190 F. 2d 543, 546 (2d Cir. 1951) per L. Hand, J.: "* * * [We] have over and over again resorted to the history of what went before, the duration of the period during which the invention was needed but failed to appear and its acceptance when it did. These circumstances have seemed to us, not indeed an absolute determinant of invention, for there is none; but at least the best, and indeed almost always the only, rational approach to a solution."

required a satisfactory seal for the cellophane wrapping. None was available. Instead, a confectioner's fold with a paper or rubber band was employed. Its search for such a seal led DuPont in 1926 to send samples of moisture proof cellophane to various adhesive manufacturers. It tried itself to develop such a seal but met with two obstacles which it could not surmount—bad odor of the adhesive and excessive dwell time for the adhesive to take hold. DuPont's adhesives chemist worked on the problem but the possibility that the solution lie in development of a pressure-sensitive cellophane backed adhesive tape didn't occur to him. Self deprecatingly he testified, "Somebody asked me why didn't it and I said I was too dumb".

Then came Drew who, although he refers to himself as a "tinkering fool" and "more of a cook than a chemist", had already invented paper backed masking tape. In June or July 1929 a paper jobber faced with the problem of producing a wrapper sufficiently waterproof to withstand submersion in water for a given time sought Drew's aid. About the same time Drew's superior, in quest for a wrapping which would keep moisture from rolls of masking tape obtained a quantity of waterproof cellophane from DuPont. This was Drew's first introduction to cellophane and he promptly related moisture proof cellophane to the problem which the paper jobber had presented to him. He "smeared" some adhesive on a strip of the cellophane and through trial and error ultimately evolved a theretofore unknown article—cellophane backed pressure-sensitive adhesive tape, aggressively and permanently tacky when fully dried, with an adhesive layer more highly cohesive than adhesive which could be wound and unwound and removed from surfaces without delamination or offsetting of adhesive. It filled the need for the satisfactory seal DuPont was looking for and introduced a new kind of tape of such inherent merit and versatility as to become common place in the home and office.

Opinion Below

DuPont had every incentive to come upon the article disclosed in the Drew patent. Notwithstanding that it had available to it the materials, the scientific personnel and the consultation of Brandenberger, one of the earliest producers of cellophane and the patentee of the patent strenuously urged here as anticipation of the Drew invention, it failed to make Drew's discovery.

It cannot successfully be controverted that prior to the advent of the article disclosed in the patent, cellophane had not been used as a backing in combination with an aggressively tacky and strongly cohesive rubber-resin type adhesive. The prior self adhering normally tacky adhesive tapes had a cloth or paper backing. The tacky adhesive penetrated the surface of the backing and obtained a mechanical anchorage due to the porosity and fibrous nature of the backing. The non-adhesive surface was not flat and consequently when the tape was wound in a roll there were only points of, rather than total, contact with the pressure-sensitive adhesive. Because there was a mechanical differential and an area differential between the two sides of the tape the roll could be unwound without delamination of the adhesive. Persons skilled in the adhesive tape art were committed to the thinking that mechanical anchorage was a *sine qua non* of an acceptable non-delaminating and non-offsetting adhesive sheet or tape. Drew also was of that mind on May 28, 1928 as evidenced by the caveat contained in the application he filed on that date for his masking tape patent, *viz.*, "An over sufficient saturation of the paper will render the surface unfit for subsequent coating * * *" (U. S. Patent 1,760,820, p. 5, lines 124-126).

It may be that Drew employed a backing with a non-fibrous surface contrary to the precepts of the art precisely because he was "more of a cook than a chemist". That a person having ordinary skill in the art would "know

better" than to attempt it does not negative patentability.[3] In retrospect, it would seem that what Drew did was simple and no more than the obvious. "Its simplicity should not blind us as to its character. Many things, and the patent law abounds in illustrations, seem obvious after they have been done * * *. Knowledge after the event is always easy, and problems once solved present no difficulties, indeed, may be represented as never having had any, and expert witnesses may be brought forward to show that the new thing which seemed to have eluded the search was always ready at hand and easy to be seen by a merely skillful attention." *Diamond Rubber Co.* v. *Consol. Tire Co.*, 220 U. S. 428, 434-5 (1911). See also *Goodyear Tire & Rubber Co.* v. *Ray-O-Vac Company*, 321 U. S. 275, 279 (1944).

The claims in the Drew patent meet the "rather severe test" and conform to the standard of invention for combination patents enunciated in *A & P Tea Co.* v. *Super Market Corp.*, supra. Whether 35 U. S. C. A. § 103 lowered the standard of invention is an inquiry, therefore, which need not be pursued in this case. *Vermont Structural Slate Company, Inc.* v. *Tatko Brothers Slate Company, Inc.*, 233 F. 2d 9 (2d Cir. 1956). Compare *Welsh Manufacturing Company* v. *Sunware Products Co.*, — F. 2d — (2d Cir. July 9, 1956), *Lyon* v. *Bausch & Lomb Optical Co.*, 224 F. 2d 530, 535, 536 (2d Cir. 1955) cert. denied, 350 U. S. 911 (1955), and *L-O-F Glass Fibers Company* v. *Watson*, 228 F. 2d 40 (D. C. Cir. 1955), with *Wasserman* v. *Burgess & Blacker Co.*, 217 F. 2d 402 (1st Cir. 1954), *Interstate Rubber Products Corp.* v. *Radiator Specialty Co.*, 214 F. 2d 546 (4th Cir. 1954), *General Motors Corp.* v. *Estate Stove Co.*, 203 F. 2d 912 (6th Cir. 1953) and *Stanley Works* v. *Rockwell Mfg. Co.*, 203 F. 2d 846 (3d Cir. 1953).

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[3] "Patentability shall not be negatived by the manner in which the invention was made." 35 U. S. C. A. § 103.

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"Scotch Brand Cellophane Tape" has achieved phenomenal commercial success. The first year it was on the market sales were upwards of $100,000. without any advertising expense. Within ten years annual sales had increased to over $5,500,000.—advertising expense throughout this period was slightly less than 3% of sales. The wide acceptance of the product attests to its need and reflects its worth. If it can be said that the question of patentable invention in this case is a close one the very substantial commercial success enjoyed by the patented article "tips the balance" on that issue. See *Jungersen* v. *Ostey & Barton Co.*, 335 U. S. 560, 567 (1949).

As already noted the Drew Patent has been thrice adjudged valid. Implicit in said determinations is the findings that Drew's invention displays sufficient "inventiveness" to constitute a patentable advance over the art. The facts established on the trial herein support that holding.

Technical Tape pleaded or noticed forty-six references to patents and publications in support of its contention that the product claimed in the Drew Patent had been patented and described by others before Drew claims to have invented it. By pre-trial stipulation plaintiff reduced said references to the following nineteen:

FOREIGN PATENTS

1. Brandenberger 433,999 (French) delivered November 13, 1911, published January 20, 1912.
2. Kronstein 112,237 (Austrian) granted August 15, 1928, published February 11, 1929.
3. Kronstein 656,582 (French) granted January 2, 1929, published May 10, 1929.
4. Kronstein 293,293 (British) accepted March 14, 1929.

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5. Grossman 372,925 (German) granted February 10, 1920, published April 3, 1923.

6. Liesegang 440,712 (German) February 10, 1927.

7. Liesegang 253,940 (British) June 19, 1926.

8. Rado 682,785 (French) granted June 2, 1930, application filed October 4, 1929.

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9. Kronstein 1,944,562 granted January 23, 1934, application filed March 13, 1928.

10. Hodgson 1,467,108 granted September 4, 1923.

11. Mantell 1,850,760 granted March 22, 1932, application filed March 21, 1929.

12. Zimmerli 1,892,123 granted December 27, 1932, application filed April 12, 1928.

13. Teague 1,746,875 granted Feb. 11, 1930, application filed June 9, 1924.

14. Healy 1,752,557 granted April 1, 1930, application filed Feb. 13, 1925.

15. Charch 1,737,187 granted Nov. 26, 1929, application filed Jan. 3, 1927.

16. Carrington Re. 3,260 granted January 12, 1869.

17. Drew 1,760,820 granted May 27, 1930.

18. Drew Re. 19,128 granted April 3, 1934.

PUBLICATION

19. Article entitled "Pearson's Crude Rubber Compounding Ingredients", published 1918 by India Rubber Publishing Co., Inc., Page 372.

Opinion Below

The publication and each of the patents referred to as prior art, or the corresponding one of another country,[4] was before either Judge Barnes in *Minnesota Mining & Manufacturing Co.* v. *International Plastic Corp.*, supra, or in *Minnesota Mining & Manufacturing Co.* v. *Pax Plastics Corp.*, supra, or Judge Campbell in *Minnesota Mining & Manufacturing Co.* v. *Neisner Bros. Inc.*, supra, and was found not to anticipate the disclosures of the claims in suit. In the *International* and *Pax* suits U. S. Patent 1,850,760 to Mantell and 1,760,820 to Drew were stressed. On appeal it was held that the Mantell Patent did not relate to the adhesive tape art and that the finding of the District Court that the claims of the Drew Patent in suit were not anticipated by, and defined invention over, the Drew masking tape patent was fully supported by the evidence. In the *Neisner* case the Court noted that although the Brandenberger French Patent 433,999 had not itself been before the courts of the Seventh Circuit when the validity of the Drew Patent was sustained, similar patents, to wit, those issued to Kronstein, were considered and distinguished from the Drew Patent.[5]

In the instant case the emphasis seems to be on the Brandenberger French Patent, the Rado French Patent and the Kronstein Patents. In considering the disclosures made by these patents they are, of course, to be read unaided by the teachings of the patent which it is urged they anticipate. So viewed, Brandenberger's invention clearly relates exclusively to an insulating substance. His concern

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[4] It is not disputed that (i) the three Kronstein foreign patents contain no disclosure not present in the Kronstein U. S. patent; (ii) the Liesegang German Patent corresponds to the Liesegang British Patent specifications; (iii) Drew 1,760,820 corresponds to Drew Re. 19,128; and (iv) Rado French Patent 682,785 is essentially the same as Rado British Patent 344,469.

[5] See note 8, *infra*.

was with increasing the electrical resistance of cellulosic films or sheets. To achieve this objective he disclosed: first, the need for closing the microscopic pores which might be present in the film; second, that one of the ways of effecting such closure would be by coating the sheets with one or several layers of linseed oil, with a rubber solution, with any insulating varnish or with a mixture of these substances; third, that a closure of the pores could be obtained by bonding together two or more sheets of cellulose since the location of the pores could not coincide in the various sheets and thus an absolutely homogeneous surface would be obtained; fourth, that the sheets could be bonded by means of any adhesive substance, but, in order to increase their electrical resistance, the sheets could be coated first with linseed oil, a solution of rubber or any insulating varnish which themselves could serve as adhesives; and finally, that cellulose sheets which had been treated in such a process so as to present a surface coated with fatty ethers of cellulose, either nitrated or acetylated superficially, could be used instead of ordinary cellulose sheets. Such superficial etherification would result in a type of varnish which envelopes the cellulose sheet closely with an insulating layer free from any porosity and the sheet thus obtained could be used as such, as an insulating material, or they could be bonded to each other and coated like sheets of pure cellulose.

The primary function of the coating in the Brandenberger Patent is to close the pores in the cellulosic sheet and to increase its electrical resistance. The reference to the coating as an adhesive to bond the sheets is quite incidental—witness the omission of any suggested formulation for the adhesive substance or any reference to the purpose thereof other than to bond the sheets with the limited objective already indicated. "Any adhesive substance", Brandenberger pointed out, could be used. Ac-

cordingly he did not specify the recipe of the adhesive substance nor even mention whether it was to be normally tacky and pressure-sensitive or otherwise. Moreover the desirability of a substance which was more cohesive than adhesive was not presented since it was not contemplated that the sheets once bonded would be separated. Nor can it be said that Brandenberger unwittingly disclosed an adhesive which was normally tacky and pressure-sensitive and more cohesive than adhesive although he did not require or seek it. To constitute an anticipation the disclosure of prior art must be clear and certain. *Trussel Manufacturing Co.* v. *Wilson-Jones Co.*, 50 F. 2d 1027 (2d Cir. 1931). The prior patent, especially if it is of foreign issue, must teach the invention with sufficient clarity and explicitness to enable a person skilled in the art to understand its nature and carry it into practical use without the necessity of experimentation. *Allied Wheel Products* v. *Rude*, 206 F. 2d 752 (6th Cir. 1953); *Hollywood-Maxwell Co.* v. *Street's of Tulsa*, 183 F. 2d 261 (10th Cir. 1950); *Wisconsin Alumni Research Foundation* v. *Breon*, 85 F. 2d 166 (8th Cir. 1936) cert. denied, 299 U. S. 598 (1936); *Donner* v. *Sheer Pharmacal Corporation*, 64 F. 2d 217 (8th Cir. 1933) cert. denied, 290 U. S. 658 (1953). Ever after the need for a cellophane tape with a coating of a normally tacky and pressure-sensitive adhesive became apparent, Brandenberger, despite his extensive research and pioneering efforts in the development and manufacture of cellophane [6] and his then role as consultant to the Cellophane Division of DuPont, failed to discern in his own patent what plaintiff's expert now claims was apparent to anyone ordinarily skilled in the art. It would serve no useful purpose to probe into the relative skill in the art of

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[6] By way of reference to the role of Brandenberger in the development of cellophane, see discussion in *United States* v. *E. I. DuPont De Nemours*, 351 U. S. — (June 11, 1956).

Brandenberger and plaintiff's expert. The Court is persuaded that the vision of the latter was substantially brightened by his diligent study of the teachings of the Drew Patent, and that absent the wisdom thus acquired what is now asserted to be clear would have been as obscure to him as it was to Brandenberger and DuPont's adhesives chemist. Unless the disclosures of the Drew Patent are read into the Brandenberger Patent the only substantial similarity between them is that they each cellulosic film. Plaintiff's brief argues what indeed is the established law, that the discovery of a new use for an old article does not justify the granting of a patent. Here, however, we find not a new use but a new article possessing characteristics and functional utility totally lacking in the old.

Plaintiff would have the Court read the Brandenberger Patent in the light of alleged admissions made by 3 M in proceedings before the German Patent Office opposing the grant of a patent to one Rado. The disclosures in the Brandenberger Patent are to be gleaned from the patent itself—they cannot be extended or limited by argument or statements made by or on behalf of third persons in proceedings which do not involve the patent and to which the patentee is not a party. As an aid in interpreting the clear and unambiguous language of the Brandenberger Patent they have no probative force. Neither can they be availed of to supply disclosures which are lacking therein. Furthermore, what are relied on as admissions against interest are at best arguments of counsel [7] which examined in their entirety cannot be construed as at variance with the position of 3 M in this case.

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[7] Counsel's expression of opinion do not constitute admissions against interest. *Martin* v. *Burgess*, 82 F. 2d 321 (5th Cir. 1936).

Opinion Below

Judge Barnes' findings in the *Pax* case, *supra*[8] with respect to the Kronstein Patent are fully supported by the evidence in this case. Plaintiff suggests that "Judge Barnes did not have the benefit of the evidence here, such as the proof that the *inherent* property of a rubber solution is to form a normally tacky and pressure-sensitive adhesive when dried and Tierney's (defendant's expert) admission that the Kronstein coatings would produce a tacky or adhesive coating." A careful study of the record leads the Court to the conclusion that the alleged deficiency in the proof before Judge Barnes has not been supplied here.

Plaintiff's reliance on Rado French Patent 682,785, issued on February 18, 1930 and published on June 2, 1930, as prior art is necessarily grounded on the premise that the Drew Patent is not entitled to an effective filing date of May 1, 1931. Plaintiff recognizes that a true divisional application is entitled to the filing date of its parent but urges that Drew's subsequent application cannot be accorded the benefit of the earlier filing date because the disclosures in the earlier application were inoperative. The evidence is clearly to the contrary. Examples C and D in

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[8] In the *Pax* case, *supra*, at page 308, the Court found: "The Kronstein U. S. patent 1,944,562 and the equivalent British patent 293,293, do not anticipate the products of the claims in suit. They relate to an electrical insulating band or ribbon which is asserted to improve upon the prior art by using a backing of non-fibrous cellulose film (cellophane) in place of cloth or paper, and which (as in the prior art) is coated with insulating material such as rubber, linoxyn, nitro-cellulose varnish, etc. The cellophane may be coated on one or both sides, and one coating may serve as a so-called adhesive. There is nothing to suggest that the phrase 'any desired degree of adhesiveness' (page 2, col. 2, lines 34-39 implies a normally tacky and pressure-sensitive adhesive condition. The term 'adhesive' is very broad and applies to normally non-tacky adhesives (such as those of postage stamps). The coatings of these patents may retain some wet adhesiveness temporarily, but in a short time dry out to a non-tacky condition. When Kronstein uses rubber solution, he obtains a frisket cement type of coating like Mantell."

the 1931 application were operative. An article made in conformity with example C was commercially produced by 3 M between November 1930 and August 1931 and plaintiff's expert successfully made tapes following said examples.

Section 102 of Title 35 provides that "A person shall be entitled to a patent unless—(b) the invention was patented or described in a printed publication in this or a foreign country • • • more than one year prior to the date of the application for patent in the United States • • •." With respect to applications filed before August 5, 1940 and patents granted thereon, however, the applicable period is two years. Pub. Law 593, 82d Cong., 2d Sess., § 293 Sec. 4(d), 66 Stat. 815 (July 19, 1952). Under the circumstances the Rado Patent does not constitute a statutory bar.

The Court has examined the publication and the remaining patents referred to as prior art and compared each with the patent in suit. It is apparent that the Drew Patent is sufficiently distinguished from them.

The determination that the Drew Patent is entitled to a 1931 filing date is dispositive of the principal ground urged by Tech Tape in support of its contention that the invention was in public use more than two years prior to the date of the application for patent. The public use upon which reliance is placed is a sale on December 5, 1930 by 3 M to *Shellmar Products Co.* Plaintiff asserts that the subject of the sale was made in conformity with Example E which was first disclosed more than two years thereafter in the 1933 application. The evidence does not sustain this allegation. It establishes that the adhesive on the article sold to *Shellmar* was not materially different from Example C in the 1931 application.

It is asserted that Drew is not the true inventor of the patent in suit. Admittedly, Drew did have other hands help him in the manual work incident to following through his

ideas and conceptions, but aid thus rendered does not elevate the helpers to the rank of inventors or co-inventors nor alter Drew's status as the sole inventor. The others worked with Drew and under his direction but made no contribution beyond physical assistance. The inventive genius resided in Drew alone.

Tech Tape's position that Claim 9 of the patent is void for want of utility or operability is not well founded. Lack of commercial success *per se* does not establish lack of utility. *O'Donnell* v. *United Shoe Machinery Corporation*, 2 F. Supp. 178 (D. Mass. 1933). Defendant established that it manufactured the article described in Claim 9 and that sometimes it performed satisfactorily and at other times it did not. Absent proof of total incapacity the defense of non-operativeness or non-utility is not available. *National Slug Rejectors* v. *A. B. T. Mfg. Corporation*, 164 F. 2d 333 (7th Cir. 1947) cert. denied, 333 U. S. 832 (1948); *Emery Industries* v. *Schumann*, 111 F. 2d 209 (7th Cir. 1940); *In re Oberweger*, 115 F. 2d 826 (C. C. P. A. 1940); Walker, *Patents*, § 67 (Deller ed. 1937).

The charge of double patenting has not been substantiated. The Drew Masking Tape patent refers to an adhesive sheet as a new article of manufacture comprising a unified paper backing with a pressure-sensitive adhesive coating united to one surface thereof. The patent in suit discloses as a new article of manufacture a non-fibrous sheet. The difference is not merely semantic. As has already been indicated the art prior to the Drew Patent led away from cellophane—a fiber free film—as a backing for a pressure-sensitive normally tacky non-offsetting and non-delaminating adhesive tape. The article of the Drew Patent was unknown to the inventor when he filed his application for the Masking Tape patent and is not disclosed therein. The substantial dissimilarity of the claims in the two patents conclusively refutes the suggestion of double patenting. *Western Electric Co.* v. *General Talking Pic-*

tures Corp., [illegible] F. 2d 932 (2d Cir. 1937), aff'd 304 U. S. 175 (1938).

Plaintiff's final ground of asserted invalidity is that the patent fails to make the "full, clear, concise and exact" description of the alleged invention required by 35 U. S. C. A. § 112. Testimony of Tech Tape's expert that he successfully made tape with the formulae set out in Examples C, D and E demonstrates that the specification of the invention and the manner and process of making any use of it is sufficient to enable a person skilled in the art to which the invention pertains to make and use the same. No more is required. A similar claim of non-compliance with the statutory standard for clarity and exactitude was treated at some length and rejected in the *International* case, 159 F. 2d 554, 558. The later decision of the Supreme Court in *Faulkner* v. *Gibbs*, 338 U. S. 267 (1949)[9] and 35 U. S. C. A. § 112,[10] effective January 1, 1953, underscore the soundness of that determination.

The contention of 3 M that the accused product infringes is resisted by a demonstration of the absence of

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[9] As was argued in the *International* case, Tech Tape urges that the claims of the Drew Patent do not meet the requirements of *Halliburton Oil Well Cementing Co.* v. *Walker*, 329 U. S. 1 (1946). In discussing *Halliburton* the Supreme Court stated in *Faulkner* v. *Gibbs*: "We there held the patent invalid because its language was too broad at the precise point of novelty. In the instant case, the patent has been sustained because of the fact of combination rather than the novelty of any particular element." The same may be said of the patent in suit.

[10] Section 112 provides: "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claims shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." The language of the Act suggests a greater liberality in the use of functional expressions in combination claims. See Commentary on The New Patent Act, 35 U. S. C. A., p. 25.

outright duplication. That Tuck Tape is substantially identical with the tapes which were held as infringements of the Drew Patent in the *Pax* and *Neisner* cases, *supra*, is admitted in the pleadings. Indeed, in its brief plaintiff admits that if its product had been before the Court in either of said cases it would have been adjudicated an infringement. The accused product serves the identical purpose and in exactly the same manner as does Scotch Brand Cellophane Tape. The two products look alike and for all practical purposes cannot be distinguished except by a trained chemist. Tech Tape simulates as best it can the dispensing and marketing techniques employed by 3 M. The difference between the two products resides solely in the composition of the adhesive. Tech Tape claims to have employed two kinds of adhesive; one of rubber-resin and the other made from polyvinyl ether polymers which is all synthetic resin and has no rubber. As to the former the distinction claimed is in the type of rubber and resin used; with respect to the latter that it is all synthetic resin and no rubber. The substituted components of the adhesive serve the same functions and have the physical properties characteristic of the pressure-sensitive adhesives of the "rubber-resin" type suggested in the patent. Some of the claims of the patent call for "rubbery base" adhesive, others for a "rubber-resin" type adhesive, and others merely for a non-offsetting normally tacky and pressure-sensitive water insoluble transparent flexible adhesive coating. As Judge Campbell stated in the *Neisner* case, *supra*, at 928:

> "The normal construction of the expression 'rubbery base' is that the product is similar to rubber at least in some of its physical properties as, for example, in its elasticity, stretchiness and the like. The adhesive coating of the accused tape clearly fulfills such a description. Similarly, the term 'rubber-resin type' adhesive properly indicates an adhe-

sive having the physical properties of rubber-resin adhesives, which properties defendant's coating patently possesses. Furthermore, the use of 100% resin, natural or synthetic, rather than the suggested proportions of rubber and resin as described in the Drew patent, might be more accurately denoted as merely a change in degree rather than in kind."

Infringement cannot be avoided by the mere introduction of minor variations nor by the use of equivalents which function similarly as the original. *Graver Tank & Mfg. Co. Inc.* v. *Linde Air Products Co.*, 339 U. S. 605 (1950), rehearing den., 340 U. S. 845 (1950); *Finkelstein* v. *Kress*, 113 F. 2d 431 (2d Cir. 1940).

By way of reply to 3 M's counterclaim for an injunction against further infringement and damages Tech Tape asserts that 3 M has unlawfully attempted to extend its patent monopoly of cellophane tape to cover products not covered by any valid claim thereof. It seeks to invoke the doctrine enunciated in *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U. S. 488 (1942) that a Court of equity will not lend its aid to protect a patent monopoly when the patentee is using it as an effective means of restraining competition with its sale of an unpatented article. To prevail in this position, therefore, Tech Tape must establish that 3 M used the Drew Patent in an attempt to monopolize the sale of unpatented tapes or to gain some market or other advantage over other competitors in the field of the unpatented article. *Automatic Radio Manufacturing Co. Inc.* v. *Hazeltine Research, Inc.*, 339 U. S. 827 (1950), rehearing den., 340 U. S. 846 (1950). Short of a refusal to sell its Scotch Brand Cellophane Tape unless the purchaser also bought its unpatented tapes, or a refusal to sell unpatented tapes unless the purchaser deals in Scotch Brand Cellophane Tape to the exclusion of cellophane or other tapes of other manufacturers, the *Morton Salt* case doctrine is inapposite.

Opinion Below

There has been a complete failure of proof that the sales policy of 3 M falls within the interdicted conduct. 3 M distributes its products through upwards of 30,000 outlets. Included among them are more than 6000 paper wholesalers and 4000 commercial stationers. Many thousands of 3 M's distributors and jobbers handle competitive tapes and 3 M has never required either that they handle its tapes exclusively or as a condition of buying one type of tape that they also buy any other. A large percentage of distributors identified by the President of Tech Tape as 3 M distributors in the New York area are, according to his testimony, also distributors of Tech Tape's products. He further testified that many Tech Tape jobbers or distributors also handle 3 M products. Of the large number of 3 M distributors over the approximately three year period preceding the trial Tech Tape points to seven, who in the aggregate account for a relatively minutial portion of the total 3 M tape business, to establish its contention. The situation with respect to each of these seven distributors has been considered and the Court is satisfied that the conduct of 3 M in each instance was motivated solely by honest business considerations in no wise related to an attempt to extend the monopoly of the Drew Patent.

The Drew Patent is valid and infringed. A decree for an injunction and an accounting may be submitted in accordance with this Opinion. Decision as whether the damages found should be increased pursuant to 35 U. S. C. A. § 284 is deferred until the coming in of the Master's report. See *Patterson-Ballagh Corp.* v. *Moss*, 201 F. 2d 403, 408 (9th Cir. 1953) and cases cited.

The foregoing shall constitute Findings of Fact and Conclusions of Law in accordance with Fed. R. Civ. P. 52(a).

Dated: July 18, 1956.

s/ ALEXANDER BICKS,
United States District Judge.

Opening Statement of Minnesota

[Record p. 8]

"The invention will be explained more in detail in the evidence, but for the moment I wanted to make the point that the invention of this tape is the article. It is not the ingredients of which this is made. It is merely the article itself, which consists of the film backing with the pressure-sensitive adhesive on it."

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Cross-Examination of Hubert J. Tierney, Minnesota's Vice-President and Expert Witness

[Record p. 202]

"Q. When Drew filed his application for the patent in suit, the adhesive was well known, wasn't it? A. Yes, it was.

Q. There was nothing new in that? A. Adhesives that had, of themselves, the area of normally tacky and pressure-sensitive adhesive character were known and in use years before this Drew patent was initially filed, yes.

Q. And the cellophane was old, too, that was known? A. Yes.

Q. Drew didn't have anything to do with making cellophane? A. No."

Decree

[Record pp. 5463-5464]

Defendant by its answer having denied an actual controversy with respect to the validity, and infringement of Letters Patent No. 2,177,627, existed between the parties to this suit at the time of the filing of the original complaint on November 17, 1951; this Court having ordered, as the defendant prayed for in its answer to the supplemental complaint, that a separate trial under Rule 42(b) of the Federal Rules of Civil Procedure, be held on the separate issue as to whether an actual controversy existed at the time the complaint was filed; said trial of said issue having been had on April 7th through 12th, 1954; the parties hereto having presented oral and documentary evidence directed to said issue; counsel for the parties having been heard in summation and final argument; this Court having given due consideration to said evidence and to said summations and final arguments; this Court having found that plaintiff has met its burden of proof of establishing, by a fair preponderance of the credible evidence, that an actual controversy existed between the parties hereto prior to the filing of the original complaint herein and that this Court has jurisdiction to entertain this suit; and this Court having made no specification required for the entry of partial judgment by Rule 54(b) of the Rules of Civil Procedure;

IT IS HEREBY ORDERED that the defense upon which this trial has been ordered and held be, and the same hereby is, stricken and that those portions of defendant's original answer and of defendant's supplemental answer which are directed to said defense be, and the same hereby are, stricken.

(s) Sylvester J. Ryan
SYLVESTER J. RYAN
United States District Judge

Dated: April 27, 1954

Stipulation, Dated November 3, 1954

"... for a substantial period of time prior to the grant of the patent in suit Minnesota Mining placed patent markings on its cellophane pressure sensitive tape, transparent and colored, under the designation 'Made under one or more of the following United States Patents' or some similar designation ... Among the patents included in the aforesaid markings from the time prior to the date of issue of the patent in suit until a couple of years after its issue, was the masking tape patent, Patent No. 1,760,820, or its reissue, Number 19,128."

• • •

Technical's Exhibit 202T

FRENCH PATENT NUMBER 433,999

XII. Precision Instruments, Electricity

6—Transmission and measurement of electricity, various apparatus.

Insulating material for pieces or cables conducting electricity.

Jacques Edwin Brandenberger
residing in France (Vosges)

Date of application: November 12, 1910
Date of issuance: November 13, 1911
Date of publication: January 20, 1912

(Patent whose issuance has been delayed in execution of article 11, section 7 of the law of July 5, 1844 amended by the law of April 7, 1902.)

Technical's Exhibit 202T

The invention relates to an insulating substance destined primarily for cables or wires for the transmission of electrical energy but which can also be used whenever it is necessary to achieve insulation of a conducting piece of any form.

The insulating material consists of a cellulosic film starting from any aqueous solution of cellulose as initial product and, in particular, from a solution of cellulosic sodium xanthate (viscose). The cellulosic films, when applied as an uncoated film only, which are used in a thickness of only 0.05 millimeters can resist about 400 volts; but this resistance is increased to a considerable extent by the closing of the microsopic pores that might be present in the films; this closure can be effected very easily by coating the cellulose sheets with one or several layers of linseed oil, with a rubber solution, with any insulating varnish or with a mixture of these substances. Then these cellulose sheets can resist more than 1000 volts.

In order to reach the closure of the pores we can also bond together two or more sheets of cellulose; since the location of the pores will not coincide in the various sheets, we obtain an absolutely homogeneous surface.

The sheets can be bonded by means of any adhesive substance, but, in order to increase their electrical resistance, they can be coated first with linseed oil, a solution of rubber or any insulating varnish. These coatings or varnishes can themselves serve as adhesives.

Instead of ordinary cellulose sheets we can use cellulose sheets which have been treated in such a process so as to present a surface coated with fatty ethers of cellulose, either nitrated or acetylated superficially. Such superficial etherification results in a type of varnish which envelopes the cellulose sheet closely with an insulating layer free from any porosity. The sheets thus obtained can be used as such as an insulating material or they can be bonded to each other and coated like sheets of pure cellulose.

Technical's Exhibit 202T

SUMMARY:

1. Insulating material for pieces, wires and cables transmitting electricity consisting of sheets of cellulose or cellulosic films obtained when starting from any aqueous solution of cellulose as initial product and, in particular, from a solution of cellulosic sodium xanthate (viscose); these sheets of cellulose being used either as single layers, or after bonding several sheets together, with or without an exterior coating formed by one or several layers of linseed oil, or of a rubber solution or of any insulating varnish.

2. The production of insulating material according to Paragraph 1, where cellulose sheets or ordinary cellulosic films have been substituted by cellulosic sheets which have been coated on the surface by fatty ethers of cellulose, either nitrated or acetylated superficially.

J. E. BRANDENBURGER

Minnesota's Exhibit XXX

[pp. 181-183 of File Wrapper of Application for Drew II]

Appeal No. 30,643 1063

Hearing:
July 31, 1939

IN THE

UNITED STATES PATENT OFFICE

BEFORE THE BOARD OF APPEALS

Ex parte Richard Gurley Drew

Application for Patent filed February 18, 1938, Serial No. 191,259, a division of an application filed June 10, 1933, Serial No. 675,291. Adhesive Sheeting.

Mr. Paul Carpenter for applicant.

This is an appeal from the action of the examiner finally rejecting claims 32, 41, 42, 44, 45, 46, 49, 52 and 54 to 60, inclusive.

Claims 45 and 46 are illustrative and read as follows:

45. An adhesive sheet comprising a regenerated cellulose film having a waterproofing coating bonded thereto and a normally tacky and pressure-sensitive non-offsetting rubber-resin adhesive coating upon said waterproofing coating, the waterproofing coating being of a kind to which the adhesive coating makes better anchorage than to regenerated cellulose film surfaces, the adhesive sheet having its parts so firmly united that it may be unwound from rolls without delamination or offsetting of adhesive.

46. An adhesive sheet comprising a regenerated cellulose film having united thereto a waterproofing coating com-

prising a cellulose ester highly plasticized with a synthetic resin and providing a smooth non-fibrous surface, and a water-insoluble normally tacky and pressure-sensitive non-offsetting rubber-resin adhesive coating united to said surface, the parts of the composite adhesive sheet being transparent, and so firmly united together that the adhesive sheet may be unwound from rolls without delamination or offsetting of adhesive.

The references relied upon are:

British Patent,	253,940,	June 19, 1926,
Drew,	1,760,820,	May 27, 1930,
Drew,	Re. 19,128,	Apr. 3, 1934,

Remington, Practice of Pharmacy, 7th Ed., 1926, pages 518-520.

We agree with the examiner that there is no invention in merely substituting a non-fibrous base for a paper base, to which appellant contends his reissue patent No. 19,128 is limited. If any suggestion is needed for the use of a regenerated cellulose backing, it is satisfied by the British patent.

That one surface of the backing should be repellent to the pressure sensitive adhesive is indicated in claim 5 of the Drew patent which as drawn is for any cellulosic backing.

It thus appears that claims 32, 41, 42, 44, 52 and 54 to 57, inclusive, teach and cover nothing not obvious to those skilled in the art over the Drew patent.

We regard those claims also as vague and indefinite, as contended by the examiner. The courts have consistently condemned compositions so compounded as to produce the desired results, no other composition characteristic being pointed out in the claim. See In re Laucks et al., 86 Fed. (2d) 833; In re Wait, 83 Fed. (2d), 696.

Minnesota's Exhibit XXX

Claims 45, 46, 49, 58, 59 and 60 include the primer coat in one way or another. This is included in the allowed claims. All of the claims of this group might be considered indefinite as to the waterproof coating, except claim 46, but in view of the claims already allowed, we cannot take the position that these claims are vague and indefinite.

It is our view that the claims are unduly multiplied and that claims 46, 59 and 60 should be sufficient in addition to the allowed claims.

The decision of the examiner is reversed as to claims 46, 59 and 60, but is affirmed as to the other appealed claims.

EUGENE LANDERS
Examiner-in-Chief

M. EDINBURG
Examiner-in-Chief

F. J. PORTERS
Examiner-in-Chief

BOARD OF APPEALS

August 8, 1939

Mr. Paul Carpenter,
140 S. Dearborn St.,
Chicago, Ill.

Cross-Examination of Paul Cohen, Technical's President

[Record page 96]

"Q. When did Technical start operating there? A. Well, we leased that factory in about October of 1947 and we were designing and building our machinery for a period of quite a few months and some time, I think in the late spring of 1948, we began production.

Q. What did you begin to produce? A. We produced several products, the principal ones at the initial stage was masking tape.

Q. And then what was the next kind of tape that you produced? A. Cloth tapes and plastic tapes, non-fibrous vinyl-backed plastic tape."

• • •

Excerpt from Opinion Below

[Record page 5873]

"Novelty for the adhesive or of any ingredient thereof per se or of the film backing per se is not claimed, but rather in the combination whereby a new article is produced."

• • •

Cross-Examination of Hubert J. Tierney, Minnesota's Vice-President and Expert Witness

[Record pages 258-259]

Q. Now this is the common everyday surgical tape, and that is what they call it, don't they? A. They call it surgical tape, yes.

Q. And that has been on the market, that general type, long before Drew ever claimed to have made any invention with this patent in suit? A. I think that is right, yes.

Q. That has a cloth back? A. Yes.

Q. And it is a pressure-sensitive normally tacky adhesive on one surface? A. Yes.

Q. It is water insoluble? A. Yes.

Q. And it does not delaminate nor does it offset when you roll--when you unroll the tape from the roll? A. Yes.

Q. You mean yes, it does not? A. It does not.

Mr. Morris: Let us mark that in evidence or for identification, if you will, please. Do you want to look at that, your Honor?

The Court: This is just ordinary surgical tape?

Mr. Morris: Just what you buy in the drug store. We bought that in the drug store in the last day or two.

Mr. Spille: I bought it.

Mr. Morris: Mr. Spille bought it. That is the ordinary standard stuff you buy and use around the house, and it has been in existence long before, as the witness said, long before Drew ever claimed to have made any invention.

Will you please mark that for identification.

(Marked Plaintiff's Exhibit 11 for identification.)

Q. Now that Exhibit 11, the tape that we just put in here, has zinc oxide in it, doesn't it, in the adhesive? A. I

believe it does. I have no way of knowing, but I know that surgical adhesives have generally been referred to as zinc oxide type of adhesive tape.

Q. And that was long before Drew started? A. Oh, before Mr. Drew made his first adhesive tape, yes.

Q. Yes? A. I think that is right.

• • •

Redirect Testimony of Paul Shalita, Technical's Vice-President and Expert Witness

[Record pp. 3089-3090]

Q. Mr. Shalita, what do you obtain when you coat a rubber solution on plain cellophane? A. You obtain a transparent pressure-sensitive adhesive.

Q. On the cellophane? A. On the cellophane.

Q. When it is wet or when it is dry? A. When the solvent has evaporated and you are left with a dry film of rubber.

• • •

[Record pp. 3439-3440]

Q. And is that rubber that is left on the cellophane tacky or non-tacky? A. It is tacky.

Q. Is it pressure-sensitive or non-pressure-sensitive? A. It is pressure-sensitive.

Q. Is that the inherent characteristic of a dried film made from a rubber solution after the solvent has evaporated, that is tacky? A. Yes, that is the characteristic of it.

Q. Common garden variety rubber, or some special kind of rubber are you referring to? A. No, I am referring to common natural garden variety of rubber.

• • •

Direct Testimony of Minnesota's Witness, Frank N. Manley of Johnson & Johnson

[Record p. 561]

"Q. How early did Johnson & Johnson start manufacturing surgical tape, do you know? A. Well, I believe historically it was one of their original products, and the company is approximately seventy years old.

Q. And they were making surgical tape when you first went with Johnson & Johnson? A. Yes."

• • •

[Record pp. 562-563]

"The Court: Was the surgical adhesive tape substantially as it is now commercially sold, sold in these respects anyway, that it was pressure-sensitive tape and that it could be rolled without offset and delamination?

The Witness: Correct, sir.

The Court: And, generally it had substantially the same qualities of the surgical tape that we now see commercially sold.

The Witness: That is correct."

Cross-Examination

• • •

[Record pp. 566-567]

Q. All right. Now when did Revolite or Johnson & Johnson commence the manufacture of industrial cloth-backed pressure-sensitive adhesive tapes?, A. I would say somewhere in the late '80s.

Q. In the late 1880s? A. Yes.

Q. And they also manufactured cloth-backed pressure-sensitive adhesive tapes which were used for such purposes—for surgical purposes, and which are commonly known as surgical tape? A. Right.

Q. In these surgical tapes that Johnson & Johnson or its subsidiaries manufactured and sold, as you say, from the 1880s, do you know in general what the composition of the adhesive was on the tape? A. I am not a technician, but I assume and I would know that we used a lot of rubber and some pitches in making adhesive tapes.

• • •

Direct Testimony of Hubert J. Tierney, Minnesota's Vice-President and Expert Witness

[Record p. 60]

* * *

"This disclosure has to do with the normally tacky and pressure sensitive type [of adhesives]. It is normally tacky at normal temperatures, and it is pressure-sensitive and those terms have become widely accepted and descriptive of that type of adhesive that has its adhesive character by mere application to the surface without the use of other activating means such as water, heat or the like."

* * * *

Cross-Examination

[Record p. 287]

"It picks up a light weight, so it is a normally tacky and pressure-sensitive adhesive, as I have admitted."

Direct Testimony of Richard Drew, the Alleged Inventor of Drew II, called by Technical as Hostile Witness

[Record pp. 1608-1611]

* * *

"Q. * * * If you had left the zinc oxide out of the masking tape adhesive would it have been a transparent adhesive?

Mr. Haight: May it please the Court, that certainly is a hypothetical question.

Mr. Morris: I don't know why he can't give an opinion.

The Court: Is this witness competent to tell us what the removal of zinc oxide from the adhesive

tape formula then in use would do to the adhesive? If he is competent, what is the objection?

Mr. Haight: There isn't any if he has ever done it and knows. But the way the question is asked it is an iffy question.

The Court: If the witness doesn't know, of course. He is too careful and deliberate a gentleman to answer questions that he doesn't understand. I will overrule the objection.

Do you understand the question?

The Witness: Yes.

A. My answer is yes, if the zinc oxide had been left out the adhesive would have been transparent rather than opaque. But it wouldn't have been a—it would have had a brownish cast coloring to it, due to the Solros.

• • •

By Mr. Morris:

Q. Well, if you left out the zinc oxide from that masking tape adhesive would it have rendered it unusable as a pressure-sensitive adhesive for tape? A. Let's see. We are still talking about the 137-30 Solros.

Q. Yes, that is the adhesive that you were using in June or July 1929. A. In that particular formula I would think offhand that would have been very close to one or more of the experimental transparent adhesives we subsequently evaluated. That would be 137 pounds of rosin to 250 pounds of rubber.

Q. It would have been satisfactory? A. I think it is in the same class as the exploratory transparent adhesives we subsequent came to.

Q. I am not quite clear on that. If you took the zinc oxide out it would still be a satisfactory pressure-sensitive adhesive for tape; am I right in that? A. Well, it will not

be the kind of adhesive we eventually arrived at. But, as I said before, I think it would be in the same classification as the early exploratory formulas we evaluated.

Q. In so far as it would have been satisfactory from the point of view of non-offsetting or non-delamination; is that right? A. I think so, yes.

Q. And also it would have been satisfactory from the point of view of tackiness? A. Yes.

• • •

Direct Testimony of Richard Drew, the Alleged Inventor of Drew II, called by Technical as Hostile Witness

[Record p. 1548]

• • •

Q. In 1927, let us say, what were your duties at Minnesota Mining? A. I was heading up the tape activity at that time.

Q. And in 1926? A. The same duty.

Q. And in 1925? A. 1925, part of 1925 I was helping a Mr. Okie, who was the developer of waterproof water-dry sandpaper. I was working for Mr. Okie the early part of 1925.

Q. Now was 3M essentially interested in sandpaper in 1925 or in tapes? A. Sandpaper.

Q. It sort of branched out into tapes in '26? A. Starting about, to the best of my knowledge, about June, May or June of '25.

Q. And were you the one that, under the proper direction, initiated the tape end of the business? A. At the very beginning?

Q. Yes.

[Record pp. 1562-1564]

• • •

Q. That is you would take a piece of paper such as kraft paper, or the oiled paper or whatever papers came along, and you would make a hand spread of the adhesive that you were using at the time to see what would happen? A. Yes, sir.

Q. And what happened, happened, didn't it? A. Yes, sir.

Q. Now the hand spread that you put on those various papers, and that adhesive in those days was put on the papers in just the same way, that is, by either rolling it on with a rod such as you have spoken of, a stirrer, or with a knife? A. Yes, and once in a while a wringer roll.

Q. And when Guth brought in a couple of pieces of cellophane around 1929 you did the same thing with them, you took some adhesive that was currently being used on the masking tape and made a hand spread of that to see what would happen, didn't you? A. Yes, sir.

Q. And what happened, happened? A. Yes, sir.

Q. And you did not do anything different there except use different material as the backing than you had been doing before in connection with the other experiments that you carried on? A. Yes, sir.

Q. And as a result of that hand spread, when you evaluated it you found that the adhesive that you had spread on, which was the current standard adhesive for the masking tape, stuck to the back of the cellophane, didn't you? A. Yes, sir.

Q. And you found also that when you let it dry for a little while or stand a little while you could stick it on another piece of cellophane and it would pull off? A. Yes, sir.

Q. Just as the masking tape would pull off? A. Yes.

Statement of Minnesota's Counsel

[Record p. 2634]

"Mr. Haight: • • • Brandenberger showed that; he had cellophane • • •."

Direct Testimony of Paul Shalita, Technical's Vice-President and Expert Witness

[Record pp. 3088-3089]

"Q. Will you please explain what kind of a material Mr. Brandenberger is talking about. A. His film, the cellulosic film he is referring to is normal cellophane."

• • •

Technical's Exhibit 201-T

GERMANY

Published April 3, 1923
German Patent Office

Letters Patent
No. 372,925

Class 21 c Group 2
(G 50279 VIII/21 c[1])

Leo Grossmann, in Berlin-Mariendorf

Insulating tape of water-proof paper

Patented in Germany since February 10, 1920

The utilization of paper as insulating material is known; parchment and oil paper have also been suggested for this purpose.

Technical's Exhibit 201T

According to the present invention relating to the manufacture of insulating tape, crepe paper or smooth textured paper is used, coated on one or both sides with an insulating solution of pure rubber or a mixture of rubber and French resin or some other rubber mixture or the like. This solution is of low viscosity, remains permanently sticky and acts as an insulation.

When the paper has been coated on both sides with the rubber solution, an intermediate strip of paper or the like is interposed between the adhesive surfaces of the insulation tape which is coiled up, this intermediate strip being prepared in such a way that the adhesive substance will not stick to it and an easy unwinding of the insulating tape is made possible.

For example, paraffined paper or paper coated with a lacquer may be used as an intermediate strip.

Especially suitable for the production of paper insulating tape are waterproof papers of great tensile strength, made of bast fibers or, for example, corresponding oil paper or parchment paper.

As in the case of the cloth insulating tape it is important as well for paper insulating tape for similar use, that the substance which acts as an insulant and which the cloth or the paper has been coated with, remains permanently sticky, in case the insulating tape shall not be used immediately after the application of the adhesive substance and even before the solvent has evaporated, still in possession of its adhesive power, as it is done with an insulating tape, processed under another method.

In accordance with a further known process, the permanent adhesiveness of a paper insulating tape is achieved by adding adhesive substances such as honey or syrup to an asphalt mixture acting as an insulant.

In other processes, paper is provided with an oil coating. However, since such a coating cannot and is not supposed to retain a permanently adhesive effect, this product can-

not be utilized as an insulating tape of continuous adhesiveness.

There is another known process where paper or other fibrous materials are treated with an adhesive rubber solution. However, the rubber solution applied is so viscous that no penetration of the paper by the solution can occur.

Contrary to these procedures, the present case is characterized by the fact that solutions of low viscosity, consisting of pure rubber or a mixture of rubber and French resin or other rubber mixtures in benzol or the like are applied to one or both sides of either oil paper or parchment paper, a single application of these rubber solutions being sufficient.

When using paper as a base, the manufacture of a conventionally known fibrous insulating tape is technically not feasible since the strain of the paper caused by repeated coatings with rubber is too great, the adhesive force of the applied rubber substance combined with the pulling stress of the coating machine will result in the tearing apart of the paper base. In this invention, a thinly liquid and continuously adhesive solution of the above named substances is used for the production of the paper insulating tape. A single coating of the paper is sufficient here to attain a usable gummed paper insulating tape.

The following will serve as an example for the production method according to the invention:

Oil paper sheet, 1 meter wide, is conveyed through a solution of:

1 kg. "Ceara" rubber
0.1 kg. French resin
10 kg. Benzol of specific gravity 0.83

The paper being thus coated on both sides with the rubber solution.

Excess portion of the coating substance is removed by a scraping blade and the solvent is evaporated by running the coated paper over heated plates. As mentioned above, when coiling the tape into rolls, an intermediary strip of lacquered paper is used.

Patent Claim

Insulating tape of waterproof creped or smooth paper such as oil paper, parchment paper or the like, which is coated with an insulating rubber solution characterized by the fact that a thinly liquid solution of pure rubber or a mixture of rubber and French resin or another mixture of rubbers is used for the adhesive coating.

Redirect Testimony of Paul Shalita, Technical's Vice-President and Expert Witness

[Record pp. 3447-3448]

• • •

The Court: Now does this Exhibit 244 correspond generally to any of the formulations disclosed in the Drew patent?

The Witness: Only in the fact that it is a rubber solution, and the closest one to it is Example B [of Drew I and II].

The Court: B?

The Witness: B, which has two different rubber solutions mixed, one of plantation rubber and the other of the Mexican or wild rubber, which has natural resin in it. The plantation rubber has less natural resin. But they are both rubber solutions.

• • •

Cross-Examination of Hubert J. Tierney, Minnesota's Vice-President and Expert Witness

[Record pp. 469-470]

"Q. And in Example B there is no added resin other than that which is included in the Mexican or wild rubber; that is true, isn't it? A. Yes."

• • •

A. All rubber has some resin in it, doesn't it, all natural rubber? A. It is referred to as resin, yes."

• • •

Technical's Exhibit 189T

B/Fr.
R. 75,969 XII/47F
RADO

11 November 1933
To the
German Patent Office

Supplementing the belated opposition brief dated 13 March 1933 the following is herewith submitted for official consideration:

The French Letters Patent 433,999 already precludes per se the subject entirely, because it reveals an insulating band of non-fibrous cellulose skin with a rubber solution. In fact it is a completely analogous utilization, that means an adhesive tape which—after its application—will not be removed and on the other hand will stick forever to the covered area; this French insulating band operates exactly as desired by the applicant for his suggested tube or hose sealings.

The use of non-fibrous cellulose skins with rubber solutions for sealing purposes is otherwise generally known, as for example disclosed by the British Patent 126,347, Page 2, Line 16 and the following. In the same Letters Patent we find a description on Page 2, Line 23,24 where the application of insulating coatings of varnish or the like to cellulose skins is given.

• • •

Technical's Exhibit 1927

28 January 1936
To the German Patent Office

R. 76 554, Class 81c, Group 26
Rado

Acting on behalf of the firm Minnesota Mining and Mfg. Co., St. Paul, Minnesota, U.S.A., an opposition brief is herewith filed against the above stated patent application to reject the above patent application to its full extent.

In support the following is presented:

The present application relates to a sealing tape for sheetmetal containers where the bottom and lid part when united has been covered by a strip which is characterized by the fact that the joint between lid and bottom is covered by tape made of non-fibrous cellulose-skin, as generally known for packaging purposes, in conjunction with a conventional adhesive rubber-solution. As admitted in the main claim of the application the use of non fibrous cellulose skin and also the use of an adhesive rubber solution united with a non-fibrous cellulose skin is stated as conventionally known.

The manufacturing of adhesive tape from non-fibrous cellulose skin with an adhesive rubber-solution spread upon at least one side is indeed well known prior to the filing of the present application [of Rado in 1927]. The French Letters Patent No. 433,999 [Brandenberger] published in the year 1912 reveals quite evidently non-fibrous cellulose bases which are covered with a plastic adhesive substance, sticking and adhering without moistening. The adhesive substance may be formed by a rubber solution. It is therefore quite obvious that the French Letters Patent reveals a tape of non-fibrous cellulose skin which at least on one side is coated by an adhesive rubber solution. The only remaining characteristic of Claim 1 is given by the fact that the joint

Technical's Exhibit 192T

between lid and bottom of the container is covered by a tape made known by the French Letters Patent No. 433,999. Evidently there is no particular difficulty or problem involved to apply this already known adhesive tape to a sheet-metal container. This would indeed be a familiar operation for any person skilled in the art; the sealing of edges and joints touching each other is actually the general purpose of adhesive tapes. Hence no basis can be found in the main claim of the invention on hand which would justify a patent grant which means that the French Patent No. 433,999 definitely reveals adhesive cellulose tapes as suggested by the main claim of the present application.

In continuance of our arguments the decision of the Board of Appeals dated 12 January 1935 re Application Rado R.75 969 is referred to. In this rejected case R. 75 969 the applicant Rado had tried to obtain a patent for a sealing material for tubes, hoses or the like, where the base of the sealing material would be comprised of a non-fibrous cellulose skin, the latter coated with the conventional adhesive substance of rubber solution on one side only. Also in this case the sealing of tubes or hoses was known just as well as the sealing of the joint between the combined bottom and lid part of the sheetmetal packages as suggested by the application on hand. In the rejected application R.75 969 too was the statement that the then application as well as the present one suggested merely the substitution of the fibrous layer by a non-fibrous cellulose layer. The Board of Appeals reported in the older rejected application that the French Letters Patent 433,999, especially Page 1, Line 19 and the following, revealed the coating of cellulose derivative tapes with rubber solutions. According to the opinion of the Board of Appeals the then claimed material, that is a non-fibrous cellulose skin coated on at least one side with an adhesive rubber solution, had to be considered as conventionally known.

Technical's Exhibit 192T

Following the same procedure the Landgericht (a trial court) BERLIN (Germany) stated in decision [in favor of Minnesota] dated 14. December 1933 that adhesive tapes of non-fibrous cellulose skin, according to the French Letters Patent 433,999, had to be considered as already known. This decision closed a law-suit which had been set into motion by the applicant Rado against the presently opposing party [Minnesota] re the Petty Patents 1,270,433 and No. 1,271,211. The Landgericht (a trial court) BERLIN (Germany) had denied any protective suitability for both of the petty patents. It is to be noted at this point that the Petty Paent No. 1,270,430 was almost identical with the then application R. 75 969 whereas the Petty Patent 1,271,211 greatly conforms with the present application. The decision of the Landgericht (a trial court) BERLIN (Germany) has been affirmed by the Kammergericht (a Higher State Court of Prussia) Berlin (Germany) on 16 October 1935. This makes it very clear that the subject of Claim 1 of the present application cannot be considered either as new or as meritorious of a patent grant.

• • •

Technical's Exhibit 190T

B/Fr.

April 28, 1934

To
German Patent Office

R. 75,969 III/47f XI 3. 307/33
Rado
Belated Opposition Brief *Minnesota*

Supplementing the belated Opposition the following is warranted for official consideration:

The applicant attempts to prove the fact that his "Sealing Material" is not identical with the "Insulating Material" of the French Patent 433,999 and establishes his arguments by using the well known textbook of Lacquer and Varnish Industry by Seligmann and Zieke; the facts are, however, completely misrepresented by him. The mentioned publication merely states that "with complicated structures as the bodies of dynamoelectric machines etc." a substitute of shellac solutions by rubber solutions is impossible because the rubber layer will be softened and become sticky at slight increases of the temperatures.

The French patent however does not relate to the insulation of the mentioned encased—and therefore by heat especially endangered—"complicated structures" like dynamoelectric machines, where nowadays Bakelite is a favored use; said French patent is only concerned with the insulation of electrical cables or wires (notice, for example, figure No. 1 of the Letters Patent) that means the industrial product "Insulating Band", generally known and widely used by electricians in an ordinarily sticky form.

It is not evident how the applicant gets to his assertion that sticky insulating materials are not suitable for these purposes. The experience wih "Insulating Band" show us everyday that quite the opposite is true.

• • •

Technical's Exhibit 190T

Every handyman knows very well that insulating band does not merely serve electric insulation purposes but can generally be used for sticking and sealing of different kinds. It has been a custom since long before to seal boxes and tin cans against humidity and to store sensitive goods, photographic equipment and the like in a safe way.

The fact now is that the insulating material of the French Patent 433,999 is a sealing material identical with the subject of the present application, that means a material of cellulose skin with a rubber solution. In case the French product is not adhesive then the same will apply to the one presented by the applicant and vice versa.

• • •

It should be stated that in the application M 110,336 [Minnesota's German application corresponding to Drew I] parchment paper had also been named as a base for the continuously adhesive plastic substance. The substituting of the transparent parchment paper by the transparent cellulose skin [cellophane] can hardly be considered inventive."

• • •

Technical's Exhibit 199T

Dr. R. / Fr. — 2 March 1937

R 76,554 XII/81c
-10 B.311.36 — To the German Patent Office.

Rado. Opposition Minnesota . . .

This is to reply to the appeal of the applicant dated 3 December 1936 as follows:

The brief for the appeal seems to be unnecessarily lengthy. It does however not take into consideration the decision of the Patent Department dated 11 November 1936, which rejected the present application, nor the intermediate decision of the Patent Department dated 18 June 1936.

The asserted problem of the application seemingly refers to the selection of a tape for sealing of a metal container and the airtight and moisture-proof coverage thereof. The answer to this asserted problem is not only evident to every person skilled in the art but also to unskilled individuals familiar with older techniques.

The decisions of the Patent Department explain the state of technology very clearly and comprehensively. The sealing of containers, packages and the like by adhesive tapes is definitely known since long before as for example shown in the American Letters Patent No. 1,520,528 dated 23 December 1924. This American Letters Patent reveals plainly the use of an adhesive tape for sealing of containers' edges and joints and relates definitely to the desirability of an *airtight* cover along the joint between the lid and bottom part of said container.

The use of non-fibrous cellulose strips is well known for numerous purposes and in view of same, the French Letters Patent No. 433,999 is especially referred to, which has been reviewed in detail in the briefs of the court of the first

instance. This French Letters Patent [Brandenberger] reveals the use of a non-fibrous cellulose material as a base for the strip, also the use of an adhesive rubber substance on at least one surface of the strip; it shows further the fact that the strip or tape is disposed to be used in connection with metal items, that means wires or cables; hence it is to be deduced that a non-fibrous cellulose tape will adhere to metal items as cables or wires by means of an adhesive rubber substance. * * * The publication of this French Letters Patent presents therefore a non-fibrous cellulose tape with an adhesive rubber substance on one side of same, processed it so far to make it non-porous, and thus rendering it airtight and moisture proof. It is also evident that this tape will stick to metal items as for example cables or wires. It would surely be understood by a most unhandy person that such a strip could be applied to the edges of a metal container. The assertion of the applicant therefore fails to prove that an inventive effort would be required. Quite contrary it is the next reasonable step to be expected. After the tape being known itself—as admitted by the applicant in his own application, that non-fibrous cellulose bases and adhesive rubber substance are conventionally known—there cannot be anything inventive in the use of such a tape, whatever purpose it may serve; and definitely nothing inventive can be seen in the obvious use of the tape for the joining [of] parts of a metal container. This is merely the use of a known item in a very well known way.

The applicant did not take pains to show that the application of the known tape to a metal container includes any particular difficulties which had to be overcome; he necessarily did not have to discuss these difficulties because they are non-existent as far as the placing of the tape on the joining parts of a metal container are concerned. There is absolutely no unexpected or surprising technical progress in this matter. The results are such as to be expected from an average person.

* * *

Colloquy of Court and Minnesota's Counsel

[Record p. 2625]

The Court: Mr. Haight, apart from the question as to whether what is stated in 192-T, whether it constitutes an argument of counsel or a statement of fact, and whether it is an admission against interest, and if so, whether it is binding upon Minnesota—apart from those questions, isn't it a fair interpretation that there is an assertion that the application of an adhesive of a rubber solution on a non-fibrous cellulose skin was something that was known from the time of the Brandenberger patent?

Mr. Haight: Yes, sir, I think so.

The Court: And if that is true and demonstratively true, then, doesn't that dispose of your case?

• • •

Direct Testimony of Paul Shalita, Technical's Vice-President and Expert Witness

[Record pp. 2996-2997]

Q. Of what substance are and were dental film mounts made? A. At the time of this patent they were made of cellulose nitrate or celluloid film.

Q. Is cellulose nitrate film smooth? A. Yes.

Q. And non-fibrous? A. Yes, they are both smooth and non-fibrous.

Q. I will read the next paragraph:

> "The objects of my invention are to provide such a mount that will be easily manufactured, into which the film may be placed with the minimum of care, and which will hold the film securely against acci-

dental displacement, but which will permit of its removal. Other objects appear hereinafter.

"I attain these objects by constructing the mount with a window that will transmit light, around which window is a marginal portion coated with a slow-drying adhesive to which the margin of the negative will adhere by pressure, and around this margin is a centering frame within which the negative fits, thus insuring its proper location with respect to the adhesive and the window."

What do those two paragraphs disclose to you, Mr. Shalita? A. Hodgson is describing somewhat the construction of his product, which is this mount for holding the dental film negative and which has a window in it. Around the window is a marginal area of a pressure-sensitive adhesive which will hold the ultimate dental film negative; and it is held securely and yet is removable, much as a pressure-sensitive adhesive will act.

• • •

Technical's Exhibit 158T

[Kronstein Austrian Patent of 1928]

Class 396 *Published on 11 February 1929*

AUSTRIAN PATENT OFFICE

Letters Patent No. 112,237

Elektra-Lack-Werke, G.M.B.H.

(Electra Lacquer Works, Ltd.), System Dr. Kronstein, Karlsruhe i.B.

Process for the manufacture of electric insulating materials.

Date of application: 15 December 1927.

Priority for application in Germany claimed as of 2 July 1927.

Patent valid since: 15 August 1928.

The electrical art uses among other substances rubber nd linoxyn (il varnish) as insulating material, normally combined with other insulating materials such as paper, linen, silk and the like, which have a higher mechanical strength. This used to be preferably done in a method, where a solution of rubber or linoxyn was coated on the material of higher mechanical strength and dried thereafter. The latter had to be done by oven heating or by heated air in order to eliminate the solvent agent entirely and to create a dry solid layer this way.

The linoxyn method starts usually with insulating oil varnish as initial product. The formation of linoxyn in the first stage is started by heat on an underbase, such as silk, linen, paper or the like.

In this processing method the nature of underbase-fiber is very detrimentally affected by the heat, in that the natural durability decreases markedly. After a certain

period of time, so-called phenomena of decline will show up, and the insulating material will become decayed and finally even brittle.' Thereby the insulation will be weakened at first, and on the other hand it will gradually lose its power of resistance against the penetration by moisture.

These deficiencies will be overcome—according to this invention—by the fact, that an insulating substance, for example, rubber solution, synthetic resin solution, insulating varnish (oil varnishes such as linoxyn or zapon lacquer such as cellulose nitrate or cellulose acetate), insulating adhesive lacquer (synthetic resin) or the like, will be combined with a non-fibrous, so-called pure, mostly glycerol-containing, cellulose, for example, with viscose bodies rendered transparent by a glycerol-component; these cellulose materials are commercially traded under the trade mark Cellophane, Transparit, Gaudophil and similar names. The cellulose material per se is a very bad insulant. The experiments of the inventing party, however, resulted in the facts, that the combination of these cellulose materials with the above indicated insulating substances produced a non-fibrous material of an outstandingly high power of resistance against electricity, which will retain its qualities also for an indefinite period of time, which is on the other hand waterproof and stable even under high temperatures, whereby it becomes well suited for numerous purposes in the field of electrical techniques. The lack of susceptibility of the combined product against high temperatures creates the possibility to perform the unification of the cellulose material with the varnish even under higher temperatures without impairing the flexibility or power of resistance of the final product.

Whereas the conventionally known insulating materials of fibrous base plus varnish present a linoxyn-membrane, which favors the diffusion by gas and thereby lacks the quality of sufficiently protecting electrical machines against

moisture, humidity and acid vapors, the product of this invention is absolutely impermeable to gas and water. The product according to the processing method of the invention is furthermore absolutely oil-proof and can be industrially produced at considerably lower costs than in the methods used up to now. This can be related to the fact that the above mentioned cellulose material, as commercially available, is smoothly polished per se, where other raw materials such as silk, linen, paper make expensive operations necessary to obtain first of all a smooth surface. Smoothness, however, is an absolute necessity in view of dangerous point discharges.

The manufacture of the insulating material according to the invention may be completed in various methods of processing. For example, the insulating substance such as linoxyn, rubber or a rubber mixture may be coated on one side of the cellulose material, thereby obtaining an insulant or insulating tape of whatever adhesive power is desired, with a smooth, hard reverse side which is especially suited for low voltages. It is on the other hand possible to furnish this single coated material with a layer of the same or different substance on the opposite side, which operation would result in a type of product, the qualities of which could be optionally varied as compared with the insulant coated on one side. It would, for example, be possible to endow one side of the insulant with higher insulating effects than the other. It would be optional to take special requirements into account, such as mechanical qualities, power of resistance, self-induction or inductive capacity of the two layer, etc.: an insulating tape could furthermore be produced, which is coated by an adhesive substance on one side only, whereas the other side remains dry and non-adhesive and thereby possesses high insulating capacities.

Technical's Exhibit 158T

In the case of an insulation coated on both sides, the material may present an identical or varied thickness of the two layers.

Furthermore, one may manufacture from the non-fibrous cellulose material ready-made items such as insulating pipes or other insulator items, which will be processed to the final product, for example, by bonding through a liquid insulating material such as adhesive insulating varnish, synthetic resin solution or the like, or through any other method.

An insulating material of much higher potentiality will be achieved if the above indicated ready-made insulator items—comprising a one or double sided, varnished non-fibrous cellulose underbase material—will be produced by the adhesive bonding or by combining two or more layers. These products will then comprise numerous superimposed insulating layers, thereby furthering the power of resistance against electricity quite considerably.

It is, of course, also possible to use the non-fibrous cellulose only in the early stage of production of said ready-made insulator items and—after completion of their shaping into the desired form—to finish them toward a good insulating material by a coating with linoxyn (insulating oil varnish).

PATENT CLAIM:

1. Process for the production of electrical insulating material, characterized by the fact that non-fibrous cellulose, such as Cellophane, Transparit, Gaudophil and the like are coated with an insulating substance such as rubber solution, synthetic resin solation, insulating lacquer (oil varnish, such as linoxyn, or zapon lacquers, such as cellulose nitrate or cellulose acetate), insulating adhesive varnish (synthetic resins) or the like and will be dried afterwards.

Technical's Exhibit 158T

2. Process according to claim 1, characterized by the fact that non-fibrous cellulose will be coated on only one side with an insulating substance, whereas the other side remains uncoated or may be covered with another optio: al material, for example, with an adhesive substance.

3. Process according to claim 1, characterized by the fact, that the non-fibrous cellulose will be coated on both sides with an insulating substance, using an identical or different insulating substance for both sides.

4. Process according to claim 1, characterized by the fact that this process will be applied only after the items of non-fibrous cellulose have been shaped and combined into the desired insulator-type by adhesive bonding or other treatment.

5. Process according to claim 1, characterized by the fact, that this process will be applied only after the items—comprising here layers, insulated on one or both sides, of non-fibrous cellulose—have been shaped into the desired insulator-type.

6. Insulating material, comprising a non-fibrous cellulose, such as Cellophane, Gaudophil, Transparit, which is coated on one or both sides with an insulating substance such as rubber solution, synthetic resin solution, insulating lacquer (oil varnish such as linoxyn, or zapon lacquers, such as cellulose nitrate or cellulose acetate), insulating adhesive varnish (synthetic resins) or the like.

• • •

Pearson Article of 1918
Technical's Exhibit 206

Article—"Crude Rubber, Etc." 1631

14 Crude Rubber and Compounding Ingredients

A Textbook of Rubber Manufacture

By Henry Clemens Pearson, F. R. G. S.

Editor of "The India Rubber World"

Author of "What I Saw in the Tropics," "Rubber Tires," "The Rubber Country of the Amazon," "Rubber Machinery," etc. Third Edition.

New York: The India Rubber Publishing Company, 1918

Pearson's Crude Rubber and Compounding Ingredients, New York, Page 372.

Divisions of Rubber Manufacture

• • •

1632 *Article—"Crude Rubber, Etc."*

CEMENTS

Many rubber factories are run wholly on this line of work, the gums being mixed as in a general rubber business, put into solution in churns, and sold by the barrel for an infinite variety of purposes. Hundreds of different formulas are in use for cements intended for general and specific purposes. The leather shoe business, for instance, calls for a dozen or more special cements. The bicycle business has need for a great many grades of what are known as tire cements. Stickiness, waterproof qualities, durability, and cheapness in their goods are sought by all cement manufacturers, and, in order to secure these qualities, they demand skill in compounding in no way inferior to that shown in other lines of rubber work.

Pearson Article of 1918
Technical's Exhibit 206

Cement Compounds.

Pure-Gum Cement

Fine Para dissolved in benzol or naptha.

White (Curing).

Fine Para	20 pounds
Zinc oxide	12 pounds
Sulphur	2 pounds
Naphtha	25 gallons

Yellow (Curing).

Fine Para	20 pounds
Litharge	8 pounds
Zinc oxide	8 pounds
Sulphur	2 pounds
Naphtha	25 gallons

Leather Sole Channel No. I.

Fine Para (washed)	30 pounds
Rosin	5 pounds
Naphtha	40 gallons

Leather Sole Channel No. II.

Fine Para (washed)	10 pounds
Rosin	5 pounds
Naphtha	40 gallons

• • •

Direct Deposition Testimony of Hubert J. Tierney, Minnesota's Vice-President and Expert Witness Offered by Technical Tape

[Record p. 3508]

• • •

"Q. Was your answer to my question yes or no? A. If your question was with respect to whether or not rubber is stretchable or a rubber coating is stretchable, the answer is yes, a rubber coating is stretchable.

"Mr. Morris: That was not my question.

"Read the question, please.

"(Question read.)

"Mr. Morris: I think you can answer that yes or no.

"The Witness: The Kronstein patent does mention rubber solution coating of cellophane, and rubber is water-insoluble, and rubber is stretchable, so that in that respect the answer might be shortened to yes."

• • •

Recross-Examination of Paul Shalita, Technical's Vice-President and Expert Witness, and Colloquy of Counsel

[Record pp. 3496-3500]

• • •

Mr. Spille: Just so your demonstration is clear, are you using the 1955 version of Scotch Cellophane Tape?

Mr. Haight: No. I think it is 1954, Mr. Spille. Maybe it is 1953. This is one that I borrowed from one of the men in our office and have been carrying with me on lawsuits for a year or so, happened to have it down here. I find it convenient in the midst of trials.

Mr. Spille: I take it, then, you can't identify whether it is one that is supposed to be the new formula Scotch Brand Tape that sticks six times tighter? Yes?

Q. Now you see that, you just touch it to the dispenser and it lifts. Now I will hand the dispenser to you and ask you to use this—which is the best of yours—use this No. 2 of today, use this one that is double-coated here, whatever it is, the one that has several layers of rubber solution, No. 2 of today, and I want you first to just touch it against that little hand dispenser, sort of form a circle out of it as I did. A. May we wipe it off first?

Q. Oh, no, that isn't necessary. You don't need to wipe it.

Mr. Spille: You didn't pick it up when you touched it?

Mr. Haight: No, I touched it only a little, didn't get any grab on it. But it incidentally picked it up.

Q. If you like, wipe it, wipe it clean first. A. We can leave it.

Q. No, wipe it clean, as you wish, wipe it clean, first.

Q. Or we can clean it off with this tape? A. That's all right.

Q. Don't get your hand on it. Just touch it with the tape. A. All right.

Q. Good. Now, how much area contact do you have there?

Mr. Spille: Isn't that wonderful? We have picked up the roll of Scotch Brand adhesive tape in the dispenser, using the exhibit prepared in court which had a coating of plain rubber solution on originally.

Mr. Haight: That is correct.

Mr. Spille: Fine.

Q. How much area of a contact do you have there? A. The adhesive is not as smooth a coat as the tape. You can see that it is glossy.

Q. It is a triangle 2 inches high with a base of an inch and a half?

Mr. Spille: See if you can get it off.

The Court: Can't you cut off an inch strip?

The Witness: Yes, I can.

The Court: Without destroying the exhibit.

Mr. Spille: We necessarily will destroy it if we cut off a strip, your Honor.

The Court: Then don't.

The Witness: Let us see if I can jiggle it down so that there is approximately an inch and see if it still holds at that point, your Honor.

By Mr. Haight;

Q. Peel it off part way. A. All right.

Q. What just happened there?

Mr. Spille: He peeled part of it off.

Q. Well, show that to the Court and explain what happened there. A. The adhesive is adhering somewhat to the dispenser as well as to the cellophane.

Mr. Spille: And when it came off, when you peeled the sheet off, did it leave any residue of adhesive on the dispenser?

The Witness: It did not.

Mr. Spille: Let us have the record clear on that. O. K.

Q. What happened then with this particular spot on the exhibit? Was that adherent to the dispenser? A. It lifted away from the cellophane backing and then sprung back to the cellophane on releasing from the dispenser.

Q. Now would you say that was firmly united to the backing? A. Yes.

Q. And when you previously testified as to one or more of these exhibits that the adhesive was firmly united to the backing, you used "firmly united" in that sense, did you? A. I used it in the sense that it would not transfer to the smooth, non-fibrous surface to which it had been applied.

Q. All right. Now will you weigh this so that we will know how much weight we have.

Mr. Greenman: Surely.

Mr. Haight: Will you do that.

Mr. Greenman: Two ounces or slightly over.

Mr. Haight: Slightly over two ounces you said, is that correct?

Mr. Greenman: Yes.

• • •

Excerpts from Technical's Exhibit 37

[Disallowed Drew Pressure-Sensitive Tape Application of October 27, 1930]

[Page 1 of Exhibit 37]

• • •

"My invention relates to adhesives or coatings and more particularly to adhesives or coatings in sheet form, such as adhesive tapes and to the method of producing the same.

While my invention has a broad field of usefulness, in general it relates to certain improvements outlined in my prior applications, Serial Number 46,492 for Adhesive Sheeting, filed July 27th, 1925; Serial Number 182,892 for Adhesives in the Form of Sheets or the Like and Method of Making the Same, filed April 11th, 1927; Serial Number 281,104 for Adhesive Tape, filed May 28th, 1928, of which applications this present application is a continuation-in-part."

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[Page 4 of Exhibit 37]

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"In my present invention, it is contemplated by me among its objects to provide an adhesive article including a backing material and an adhesive coating or layer in which the desirable characteristics inherent in providing a limited adhesive surface predominates but in connection with more facile methods of manufacture to bring out the aforementioned desirable characteristics and to a larger measure augment the same not only enabling a continuous and more rapid method of manufacture but providing an article which is cheaper to manufacture and is susceptible of use with all classes of adhesive materials contemplated by me as set forth in my aforementioned applications • • •."

Excerpts from Technical's Exhibit 37

[Pages 5 and 6 of Exhibit 7]

* * *

"It is contemplated as an object of my invention to provide an adhesive article which not only has the inherent properties present in a composite of an adhesive upon a backing material formed with rugosities as by creping, toweling or corrugating, but one which lends itself more facilely to quantity production methods by utilizing flat webbed material to thereby provide an article which is amenable to use with every form of adhesive coating previously enumerated by me and which when utilized in connection with backing formed with rugosities by creping, toweling or corrugating as particularly claimed in my application, Serial Number 281,104 augments the properties of the materials thus made and additionally facilitates its manufacture.

In the preparation of an article, as contemplated by my invention, in providing an adhesive article it is contemplated by me to use a backing material in sheeted form preferably to [of] cellulosic material of which there may be enumerated woven fabrics, such as cheese cloths, felted or deposition products, such as paper, colloided or gelatinized products, such as may be made from cellulosic compounds as nitro-cellulose, acetyl cellulose, regenerated cellulose [cellophane], hydrated cellulose, vulcanized paper, parchmentized paper, which may all be classified as non-fibrous backing materials.

The backing materials above enumerated may be considered as unified, by reason of the process utilized for making a colloided or gelatinized product. However, where a fibrous backing material is used, unification may be obtained, by gelatinizing a fibrous sheet or saturating or sizing with agencies which unify the otherwise fibrous characteristics of the backing material employed. This unification is particularly applicable to cloth or paper backing materials and is preferably applied to paper products ren-

dering the same usable for my intended purpose, whereas otherwise they would be objectionable in that they laminated or split or peeled. In general, the unification of a cellulosic backing such as paper where this form of backing is employed may be practised in accordance with and by the materials disclosed in my application, Serial Number 182,893, which briefly comprises impregnating a cellulosic material such as paper, preferably of the unsized variety with gelatinous material of the glue type, flexibilized by hydroscopic agents such as glycerine, calcium chloride or both and other softening agents such as oils, gums, waxes and materials enumerated in my applications aforesaid and preferably insolubilized by tanning agents such as formaldehyde and similar insolubilizing agents. Additionally, unification may be obtained by treating to impregnate or to surface an otherwise bibulous fabric such as paper with drying oils, oxidized to insolubility, resinified products such as phenolic condensation products, urea resins, polyhydric resins, vulcanized rubber, haloginated rubber such as chlorinated rubber."

• • •

[Page 8 of Exhibit 37]

"The adhesive materials which I have previously mentioned may include the normally pressure sensitive or tacky adhesives of the type which is water soluble or water insoluble or those which are normally dry and include an agent which will respond readily to wetting, to render the adhesive with which it is intermixed, normally tacky and pressure sensitive and retain the same in this tacky or pressure sensitive condition, as described specifically in my application Serial Number 46,492. Adhesives may also be of the character which under ordinary atmospheric conditions are thermoplastic and respond to heat to be energized to adhesiveness for application by mere pressure or which under tropical atmospheric conditions may become adhesive."

• • •

Excerpts from Technical's Exhibit 37

[Page 11 of Exhibit 37]

• • •

"A rubber adhesive of the character contemplated by me may be made from a rubber compound and a tackiness augmenting agent preferably 10 lbs. plasticized plantation rubber, 2 lbs. Cumaron gum or resin and ½ lb. of zinc oxide pigment [Example A of Drew I and II]. Another example which may be used to form a water insoluble and tacky or pressure sensitive adhesive comprises a mixture as follows:—plantation rubber 2 lbs., Mexican or wild rubber high or natural resin 5 lbs., pigment 1 lb. [Example B of Drew I and II]."

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[Page 20 of Exhibit 37]

[Claim 4 as amended]

"4. A normally removable and reusable adhesive tape comprising a flat webbing of backing material, a normally tacky and pressure sensitive coating on one surface thereof, including portions thereof discontinuously arranged and transversely spaced striped films longitudinally of the length of the webbing, with interdisposed uncoated portions."

• • •

[Page 37 of Exhibit 37]

[Drew Statement of Dec. 7, 1931]

"The variation of applicant's article and the method disclosed as distinguished from Drew [Drew I] is more than a mere change in form, since this change which embodies substantially the inherent characteristics present in Drew, effects tremendous economies in manufacture and cost of material."

• • •

Excerpts from Technical's Exhibit 37

[Page 44 of Exhibit 37]

[Drew Statement of Nov. 1932]

"Referring to the action on the merits of the claims, it is believed that the real question involved may be simplified by consideration as a whole, of the art which forms a background to applicant's present invention. Applicant admits that the generic invention is to be found in applicant's own prior patent, 1760,820, which was co-pending with the present application, and that insofar as Drew 1760,820 is concerned, the only subjectmatter found in the invention which at all approaches applicant's invention is Drew's own patent, which was co-pending with the present application. Such common subjectmatter resides in the provision of a paper backing with a normally tacky, pressure sensitive adhesive coating, having removable characteristics. One phase of the article disclosed in the invention described and claimed in applicant's issued patent resides in the provision of a crepe backing, carrying a normally tacky, pressure sensitive and removable adhesive coating so that when the adhesive coating is applied to the job or the tape is formed into rolls or stacks, the adhesive surface will make a limited amount of contact to the job to which it's applied, or with the adjacent back surface of the layer of tape when formed into rolls or stacks. This relationship of the adhesive surface facilitates the removal of the tape, aside from other features, stressed in said aforementioned Drew patent.

When consideration is given to this inventive thought, and the disclosure made in the application under consideration, it will be found that applicant's development is an *outgrowth* of the invention in his own issued patent and has no relationship to the other art made of record by the Examiner."

Direct Testimony of Richard Drew, the Alleged Inventor of Drew II, called by Technical as Hostile Witness

[Record pp. 1582-1599]

• • •

Q. When the cellophane came in at Mr. Guth's request, you simply took strips off as you had taken pieces of kraft paper and of the parchmentized paper, of the kraft paper backing and the other things you spoke of, and spread the existent tape adhesive, the masking tape adhesive just as you had done in the other cases, is that right?

Mr. Haight: If the Court pleases, I want to object to that question because the placing of the words "at Mr. Guth's request," I think it is so placed in that question that perhaps the witness will understand that Mr. Guth was the person who ordered the cellophane from duPont, and by the time the question appears in print it may indicate that it was at Mr. Guth's request that he did certain things to the cellophane, so I object to the question.

Q. Now if you can answer that question, will you please answer it.

Mr. Morris: May the answer be permitted, your Honor, or the witness permitted to answer it?

The Court: Suppose you read that question again.

(Pending question read.)

Mr. Morris: I will withdraw it as it is susceptible of that interpretation.

The Court: Yes.

Mr. Morris: And I did not mean that.

Testimony of Richard Drew

Q. When the cellophane came in from duPont in June or July of 1929, you simply took the masking tape adhesive that you had around and that was being used on masking tape at that time and spread it on the cellophane as you had spread the same adhesive on different other kinds of backings such as kraft paper or the combination of kraft and parchmentized paper? A. Yes, sir.

Q. And the others? A. I used the same procedure.

The Court: Was it your practice to try out these different types of papers or material?

The Witness: Yes, sir.

The Court: And in doing that you just tried out some adhesive on it.

The Witness: Not just for the fun of it was I doing it.

The Court: Of course you were not there to entertain yourself.

The Witness: No.

The Court: You just were trying it out experimentally to see what would happen, is that it?

The Witness: I had a particular objective in mind in trying it.

The Court: You had never heard of cellophane tape before, so that your objective developed after you first saw the paper?

The Witness: Yes, it did, sir.

• • •

Q. And whatever came out of those hand spreads was due to the characteristics of the cellophane which duPont had produced, and the masking tape adhesive which had been used for some considerable time on your masking tape?

Mr. Haight: If the Court please, I object to that. Now we are getting into a point where counsel

knows well it is a combination. He asked the witness if what comes out of it is due to the duPont cellophane and the old adhesive used.

Well, if that appears from the witness's testimony here then it is not necessary to ask the question. If counsel is trying to get in an additional point, then it is certainly objectionable because it is leading the witness; it is suggesting that there wasn't anything more than the addition of a separate part, and he is getting into matters of patent law that the witness is not an expert on.

The Court: Well, Mr. Haight, I don't recognize that it is a matter of patent law in the question that has just been put to this witness.

Mr. Haight: Well, if the Court please—

The Court: It may well be that from the facts you will have some serious question of patent law, but what Mr. Morris, as I understand it, is trying to get from this witness has to do with the facts, what did he do.

Mr. Haight: Well, I think he has already got that.

The Court: And that part of your objection where you say it is leading, well, first of all, we are trying the case without a jury; and, secondly, Mr. Drew is an adverse witness or an unfriendly witness—well, I won't say he is unfriendly, but as a matter of law we may classify him as not being friendly, or I won't even go so far as that, but I will just say that he is a 3M man.

Mr. Haight: That is correct.

The Court: So I do not think that there can be any objection to the leading part of it. I think, though, that the question is perfectly proper from what the witness has already said up until this

time that he had never heard of it, or, as I understood this witness's testimony, he said that he had never heard of cellophane before, that he did not know anything about the properties of cellophane, and he then told us about the circumstances under which he used it in connection with exploring some other problem for some paper company.

He testified that it was in June or July, 1929, that he was doing work with this cellophane, or that was the first time he says that he saw the circumstances under which it would act, and when he saw it he did not do anything further. As a matter of fact, he did not know anything about its constituents, and he said that he was using it in an effort to help him solve another problem, and he was trying it out.

Now he did not add anything to the cellophane, he did not change the structure of the cellophane in order to make it more adaptable as a backing for tape. Maybe he did, but it has not come out in the evidence as yet. He said he took some piece of material produced by another company, another commercial company, and he put some adhesive on in an effort to solve a particular problem that some paper company asked him about, and he said he had some adhesive there that he was using on the masking tape and he applied one to the other when he was experimenting and he came out with this. Now, that is what his testimony, as far as I am concerned, so far indicates.

Mr. Morris: That is right. And I am asking him now, if your Honor please, whether when he put the adhesive on the cellophane backing, whether it was the waterproof cellophane or the normal cellophane, the resultant product had only the character-

istics that were given to it by the adhesive and by the cellophane which had been obtained from duPont. I think that is a perfectly proper question.

The Court: Well, we know that, don't we, from what the witness has done or what he has already testified to?

Mr. Morris: Your Honor, if I were to tell you that—well, I would just rather not tell you what else happened if I may.

The Court: Surely.

Mr. Morris: And will you permit the answer to this question, your Honor?

The Court: Yes.

Mr. Haight: I think there again, if the Court please—

The Court: I think this witness can certainly answer the question. He is a scientist or a chemist, rather, and while he does not have an academic degree, yet he is a man who has been in the laboratory for the greater part of his adult life and he can certainly tell us what he did in this connection.

Mr. Haight: You see, if the Court please, counsel has already drawn out of the witness what he did and now he is asking this witness a question in an attempt to get this witness's conclusion or opinion which, if he gets the answer, he would make it look as though this witness were an expert on combination claims and patent law.

Mr. Morris: I am not talking about any claims.

Mr. Haight: I know you have not, but if the question has any relevance, that can only be it, and this witness's conclusion or opinion as to whether some of the elements or the combination of elements, or whether it is the sum of the parts, or whether there is more or less, and so on, that is not a proper

question addressed to this witness because in substance what you are asking him is whether or not it was the sum of this and this, and in that way we are now getting into patent law, when such a question is asked of this witness.

The Court: There is no question of law propounded to this witness as yet, Mr. Haight.

Mr. Haight: Well, that question has an element of law in it.

The Court: Of course Mr. Morris might argue that it has certain legal consequences, but that will be his argument based upon facts that he elicits from this witness here. After all, he has a right to develop the facts.

Mr. Haight: He has already developed the facts. This question adds nothing except the opinion of the witness on matters that embrace patent law.

The Court: Don't you think that this witness is competent to give an opinion?

Mr. Haight: He certainly is, but not when he merges patent law in his question.

The Court: He is asked to give an opinion as to what he did and whether the results obtained were due to anything he did. Then, putting the two things together, whether or not he got something.

I will allow him to answer the question. I think he is competent to answer it.

Mr. Haight: I am not suggesting that he is not, your Honor.

The Court: Of course. And you know, Mr. Drew, when we use the word "competent" we do not use it in terms of mental competency; we are talking about legal competency.

Mr. Morris: Will you read the question, please.

(Pending question read by the reporter as follows:

"Q. And whatever came out of those hand spreads was due to the characteristics of the cellophane which duPont had produced, and the masking tape adhesive which had been used for some considerable time on your masking tape?") A. My answer is yes.

Q. So we have in the swatches that you produced in June or July 1929, by putting masking tape adhesive on the cellophane backing, simply an addition of the adhesive to the cellophane—

Mr. Haight: Just one moment.

Mr. Morris: Wait until I get through, please. I have not finished my question.

Mr. Haight: I thought that you were done, but I wanted to object before the witness answered.

The Court: Yes.

Mr. Haight: And I thought that you were done.

The Court: Mr. Drew, when you see Mr. Haight arise to make an objection, you will please just withhold your answer.

The Witness: Yes, sir.

Mr. Morris: Will you please read that part of the question that I had asked.

(Unfinished pending question read.)

Q. (continuing) —with the result that the cellophane retained its characteristics and the adhesive retained its characteristics?

Mr. Haight: Are you finished, Mr. Morris?

Mr. Morris: I am.

Mr. Haight: All right.

Now if the Court please, I object to that, and I think—

The Court: On the question of whether this witness can answer that question?

Mr. Haight: It is the impropriety of the question. And I can illustrate it with this much better that I could with the previous question asked. It has to do with the difference between what in patent law is called an aggregation and a combination. And there are cases that say that if you take two elements and add them together and each element performs its old function in the same old way, then you have an aggregation of elements, you do not have a true combination. However, if you have two elements and you put them together and you get a new article or a new result and if there is interaction and cooperation between the parts, then you have a patentable combination.

Now, your Honor—

The Court: Mr. Morris is trying to pursue it and find out is there an aggregation or is there a combination.

Mr. Haight: Yes, but the point is that this witness can well say the cellophane was still cellophane, the adhesive was still adhesive. But when you put a question of that type where it has inherent in it matters of patent law, the witness will answer the question as he understands it and giving an answer that is not the way Mr. Morris understands the answer. That is my point. We are getting now to questions of opinion.

The Court: Don't be concerned with Mr. Morris' understanding or inability to understand. He asked a question of this witness which this witness certainly is competent to answer, and if it is material to get the answer the answer will be immaterial. You will be able to argue one way from it and Mr. Morris will be able to argue another way from it. But we ought to have in the record what happened

after those two pieces were put together, was the physical property of either changed or did they each retain their original properties and characteristics. Is that the question, in substance, Mr. Morris?

Mr. Morris: In substance that is it, yes.

Mr. Haight: If that is the only question, that is immaterial; it is not relevant to the lawsuit, because you don't need to change the substance of an element or change its characteristics to have it part of a patentable combination. So if that is all there is to the question then it is completely immaterial.

The Court: Mr. Morris is developing a point. I don't think he should be called upon at this time to disclose what it is. I don't think that it is so remotely irrelevant to the controversy that he shouldn't be permitted to answer it. So I will overrule the objection.

Perhaps you had better read the question again to the witness. He may have forgotten it by now.

(Question read.)

A. The answer is yes, both retained their characteristics.

Q. And it might be likened to the mathematical proposition of two plus two equals four; is that right?

Mr. Haight: May it please the Court, that is thoroughly improper.

The Court: Yes.

The objection is sustained.

Q. The cellophane back performed the function, the waterproofing function that was inherent in the waterproof cellophane, didn't it? A. Yes, sir.

Q. And the masking tape adhesive performed the adhesive characteristics, such as tackiness and pressure-

sensitiveness, non-offsetting characteristics which were inherent in that particular adhesive at that time? A. Yes, sir.

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Cross-Examination of Hubert J. Tierney, Minnesota's Vice-President and Expert Witness and Colloquy of Counsel and Court

[Record pp. 745-747]

• • •

The Court: Your reference to the testimony on page 168, how do you relate the reference there to primer to any subject of waterproofing?

Mr. Morris: On page 5 of the patent [Drew II], your Honor, in answering your question, in the first column, beginning in line 46, it says:

> "In general, the primer layer is one which makes satisfactory bond with the regenerated cellulose backing material, or the gelatinized cellulosic material constituting such backing material, which may include a waterproofing layer of cellulosic compounds. Such primer may be a layer of a synthetic resin, such as one of the group of polyhydric-alcohol polybasic-acid resins, which makes excellent union with gelatinized cellulosic materials and with rubber. In the event that it is desired to wholly eliminate the above types of primer layer and waterproof the backing material of regenerated cellulose, where this is used, the waterproofing layer over the regenerated cellulose backing material is one which has affinity for the adhesive coating so that the adhesive coating makes better anchorage than would be the case if the regenerated cellulosic film were used alone. Such

waterproofing materials which have a primer function, may be a highly plasticized nitrocellulose or cellulose acetate"

and so forth.

The Court: Did the witness testify with respect to that portion of the patent on his direct examination?

Mr. Morris: Yes, he explained that portion of the patent.

Mr. Haight: The answer to that I believe, your Honor, is unquestionably no. The waterproofing, neither party here does it; it is not involved in the case, and the witness was not asked to explain that part of it.

* * *

Direct Testimony of Ralph C. Schilly, DuPont Chemist, called by Technical

[Record pp. 2280-2282, 2288]

The Court: You could not roll that tape up, could you?

The Witness: If we were to—

The Court: And put it back to the sheet.

The Witness: Well, yes. I am not going to try to say that we could not if we were producing tape, but understand that we were working with adhesive. We were not working with the idea of producing a tape. We were trying to seal or produce a satisfactory adhesive for regenerated cellulosic film; that is, the cellophane, plain transparent cellophane in order to satisfactorily seal that material around a product; namely, to produce a package, and we did not feel that the adhesive at that time were satisfactory enough for use on the cellophane.

Testimony of Ralph C. Schilly

Q. Are you referring to 1924? A. I am referring now to 1924. So that work was attempted on those. We contacted the various adhesive companies in the—known to be producing adhesives in the country.

The Court: Mr. Schilly, when was this when you say "we did it"? When was that.

The Witness: That was in 1924.

The Court: Were you with the company at that time?

The Witness: I was with the company at that time.

The Court: And who did the attempting to contact?

The Witness: I did. They all sent adhesives in and we tested those adhesives and we still felt that they won't be completely satisfactory for our purpose.

Q. May I ask you this. Did all these adhesives seal or bond two pieces of cellophane together when applied with the brush? A. Yes, they did.

Q. Were you also concerned with getting adhesives which when dry were very flexible? A. We were attempting to get as flexible an adhesive as we possibly could under all atmospheric conditions.

Q. Can you tell me the result of this contacting of adhesive manufacturers of these water-soluble adhesives and your own experimental work? Was it ultimately abandoned, or did it ultimately reach a point where you had adhesives which you recommended to the customers and the trade? A. We eventually obtained adhesives we considered adequate for the purpose of sealing plain transparent cellophane to itself or to other material. They weren't entirely, completely, as you would say, satisfactory

but they were the best that could be done with, and we had to use them.

• • •

[Record p. 2288]

Q. Now am I correct in my understanding that in all the adhesive work on water-soluble and on the solvent gum type adhesives, du Pont was seeking to make a general purpose adhesive or make it available for any and all purposes on cellophane? A. I wouldn't say that we were trying to make a general all-purpose adhesive. I believe what we were trying to do is to produce adhesives for a specific application, and if by luck we did produce an all-purpose adhesive that would have been fine.

• • •

Cross-Examination

[Record pp. 2312-2314]

The Court: Yes.

Now, after you left the du Pont Cellophane Company in the capacity of research chemist and went down to the Sales Division, what, if anything, did the du Pont Cellophane Company do with respect to exploring the adhesive field?

The Witness: I would say that from 1927 on all of our work, or practically all of our work was confined to the exploration of new adhesives for moistureproof cellophane, and that undoubtedly during that period 90 per cent of our work was on moistureproof cellophane adhesives.

Now, I say that relatively that it was 90 per cent, but the major part of the work on moistureproof cellophane was done from 1927.

The Court: And did you come up with anything worthwhile?

The Witness: Yes, we came up with some very satisfactory adhesives.

The Court: Normal cellophane?

The Witness: Well, we were working entirely on moistureproof cellophane and the adhesives that were eventually used were also of such character or kind that they were reasonably satisfactory for automatic fabrication of bags, and made even before the P.T. cellophane, the plain transparent or normal cellophane, and those were adhesives on a nitrocellulose base, namely, 46, 446 and 559 was produced, and that was as good for hand applications as any at that point, taking hold as fast as we would like, but it was easy to apply, and we got rid of reasonable amounts of the old difficulties.

Sealing of course was a problem up until the time that heat-sealing moistureproof cellophane came into being. You asked about plain transparent cellophane adhesives. A good share of the work from that point on was done by the manufacturers of adhesives outside the company. I refer there to National Starch, Union Paste, Arabol Manufacturing Company, and Manhattan, I think it is Manhattan Paste & Glue Company. They are located here in town.

The Court: As far as you know, did any of them come up with any pressure-sensitive adhesive?

The Witness: They weren't working on pressure-sensitive adhesives, your Honor, they were working on water-soluble adhesives, and some of those adhesives are still being used. Those were all water-soluble adhesives. They overcame some of the problems that we were originally confronted with gum embrittlement and excessive wrinkleing.

• • •

Cross-Examination

[Record pp. 2315-2316]

The Court: Well now, when you took the cellophane which had the backing of the adhesive on it and affixed it or applied it, say, to another piece of cellophane on to a

piece of glass or to another piece of paper and then you tried to remove the cellophane, did any of the adhesive--

The Witness: Now, your Honor, you are implying that I was doing some work for the production of a pressure-sensitive tape, are you not? I was not working on that. I was working in the production of an adhesive to seal a wrapper.

I don't say that if I applied it and dried it and attached it to a piece of cellophane that it wouldn't have stuck, it undoubtedly would have, and done a—I won't say a good job, I won't say it would do a bad job, because I don't know, you are asking me on something I can't honestly answer, because you are asking it concerning pressure-sensitive tape. I was producing an adhesive and I can only answer on the adhesive.

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Direct Testimony

[Record pp. 2292-2294]

Q. All right, sir. Did du Pont develop a complete heat-sealing moistureproof cellophane? A. Yes, sir.

Q. And offer it for sale? A. Yes, sir.

Q. Is such a type of cellophane being sold now? A. Yes, sir.

Q. Will you please describe to the Court the normal standard method of sealing such moistureproof cellophane together and [in] packaging? A. Our heat-sealing cellophane which we term MST cellophane can be heat-sealed merely by the application of heat and pressure, and the optimum temperature for sealing should be approximately 135 degrees Centigrade.

The Court: Is that heat-sealing method applied in the moistureproof cellophane?

The Witness: That is the heat-sealing moistureproof cellophane, the MST cellophane, yes, sir.

Testimony of Ralph C. Schilly

Q. Will you tell the Court approximately when heat-sealing cellophane or MST cellophane was offered for sale? A. I would say in about 1932.

Q. Now, prior to that time was there any type of moistureproof cellophane available on the market? A. Yes, sir, from—I believe that it came out commercially in 1927, the moistureproof cellophane, and then in addition to the heat-sealing moistureproof cellophane, the MST cellophane, we had the so-called MT grade cellophane.

Q. And how was the MT grade cellophane generally sealed? A. That was sealed depending there again on its end use.

MT cellophane was sealed over with adhesive or by heat alone, or by the use of solvents and heat.

Now, you will notice that I submitted in there "or heat alone."

Q. Yes. A. A lot of cigars were wrapped in MT cellophane and are still being wrapped in MT cellophane, because there you do not need a strong seal, otherwise you will break the cigar when you try to take it or remove it from its wrapping, so you want a seal that will hold the wrap sufficiently, and to hold the wrap—

Q. And no more? A. And no more, and that is exactly what it did and is still doing it.

• • •

Redirect Testimony

[Record pp. 2325-2329]

Q. Now, sir, during the period 1924, let us stop at 1952, when du Pont was initially selling plain transparent cellophane and later on MT cellophane and later MST cellophane, during that entire period did the sales of cellophane and the uses of cellophane in the packaging field by du Pont increase every year, or did you have dips? A. Not knowing the figures on sales, annual sales, it is rather difficult for me to answer that correctly, but I am going to give you

my opinion. I believe that there was an increase during that period from—you say 1924—

Q. Yes, sir. A. —through 1931.

Q. 1931. And the uses for these various types of cellophane during that period, did it increase or was there a contraction of uses, again in the packaging field? A. Generally speaking, I would say that there was an increase in the normal use of cellophane. It would—rather, it might change from PT to MT or MST. Particularly, I can give you an example of that where in the baking industry cookies, in particular, several New York City bakers were wrapping cookies in PT cellophane, back in the very early days, they went to MT cellophane and thence to MST cellophane, and I would say that the use by that specific baker increased as the years went along, particularly as we got into the MST grade of the cellophane.

The Court: What is the difference between MT and the MST?

The Witness: The MT was what we classed as non-heat-sealing and the MST was heat-sealing. Both were moistureproof or moisture vapor resistant.

Q. Do you recall what was the first major or mass use of moistureproof cellophane in the packaging field? A. The first mass use I believe was cigarettes.

Q. Now what kind of cellophane was used to wrap cigarette packages? A. MT cellophane.

Q. And how was that sealed, sir? A. That was sealed by one of two methods: A very dilute adhesive followed by an application of heat to the completed seal, or a solvent plasticizer mixture applied and followed by an application of heat.

Q. Now were those packages of cigarettes to the best of your knowledge commercially sealed with any form of tape? A. To the best of my knowledge, I don't recall any

cigarettes being sealed at that time with pressure-sensitive tape.

Q. Now did the cigarette industry, when moistureproof sealing transparent cellophane, namely, MST cellophane became available, did they switch over to that for wrapping cigarette packages? A. Not entirely, no, sir.

Q. All right. Let me ask you this: As of today, does the cigarette industry wrap the cigarette packages in MT cellophane or MST cellophane? A. Both.

Q. Both. Now on the M.S.T. cellophane, how are those packages of cigarettes sealed? A. They can be sealed by either just heat or, again, solvent plasticizer and heat. I would say that the latter is more in application than the former, simply because you can use a much lower heat application than you can with a direct heat alone.

Q. Now are the adhesives used in the cigarette industry today, and I will go back to 1928 and 1929, if I may, are those adhesives pressure-sensitive adhesives? A. On cigarettes, sir?

Q. Cigarettes. A. I would say no, they are not. But there, I can't answer that entirely. Plasticizers, solvent mixtures, no.

Q. Let me ask you this. Are they rubber-resin adhesives? A. I am going to answer that by saying I don't believe that they are, for this reason: I don't know whether they were or not. But I don't believe they would be a rubber-resin adhesive.

Q. Now in the research work which you have described by duPont on plain transparent and moistureproof cellophane, was there ever a point reached where duPont recommended a particular method of sealing which was to be universally applicable to all types of packages? A. Both moistureproof and plain transparent cellophane?

Q. Yes. A. I don't recall anything ever having come up to that extent, no, sir.

Cross-Examination of Minnesota's Witness Lake

Q. Is the majority of packages sealed in moistureproof cellophane today sealed with an adhesive or heat-sealed? A. I would say that the majority are heat-sealed.

• • •

Cross-Examination of Minnesota's Witness Edward C. Lake, a duPont Salesman

[Record pp. 995-997]

• • •

Q. Now, I am referring to page 6 of Plaintiff's Exhibit 99 and the little box marked 1931 which says:

> "First mass use was in wrapping cigarettes. In depression years, 1929-1932 film use rose five-fold, price was half."

Now, does that refresh your recollection, Mr. Lake, as to when the first real great or mass use of cellophane occurred and on what type of items? A. Well, there was a great growth during that time, during those years.

Q. When the cigarette manufacturers adopted the practice, if they did in 1931 or thereabouts, of wrapping cigarette packages in cellophane, that was a tremendous boost to the sales of cellophane by duPont, was it not? A. Yes, the same as cigars were, of course.

Q. And those packages of cigarettes or cigars, they were wrapped in moistureproof cellophane, were they not? A. Yes.

Q. In contrast to the plain or normal cellophane? A. That is right.

Q. Now, how were these packages of cigarettes sealed or cigars sealed when they were first used and came on the market? A. Well, let us confine it to one product.

Excerpt from Drew I

Q. All right, sir, cigarettes. A. My understanding is that they were sealed by means of heat and sometimes cellophane and—

Q. But not Scotch tape? A. No, not Scotch tape in that instance as I recall.

Q. And how were the cigars sealed? A. Well, the cigars were sealed sometimes in a tube that had been made with an adhesive, or in the case of the cigars an absolute type heat seal was not necessary.

Q. But the seam was heat-sealed, was it not? A. Well I think that it was heat-sealed, yes, or heat-applied.

Q. You don't know of any cigars or cigarette packages sold commercially that were wrapped in Scotch Brand Cellophane Tape, do you? A. Not that I know of.

• • •

Excerpt from Drew I

[p. 3, col 2, lines 116-130 through p. 4, col. 1, lines 1-24]

"Paper of the character above described may have directly applied to one surface thereof a water insoluble, non-drying adhesive, preferably energizable or active merely by the application of pressure, so-called a zinc oxide or rubber base adhesive for surgeon's or industrial tape. This adhesive material may be given as follows:

Example A

A rubber compound and tackiness augmenting agent in the form of a synthetic resin. Proportions suitable for ordinary temperate climates may comprise:

10 lbs. of plasticized, first quality plantation rubber, such as clear crepe or smoked sheets.

2 lbs. of cumaron gum or resin.

½ lb. of zinc oxide pigment.

Excerpt from Drew I

The cumaron gum or resin is preferably an artificial resinous material coming under the group name of cumaron and indene resins, which is the polymerization product of coal tar derivatives. The above ingredients are compounded on a rubber rolling mill to a plastic condition and then cut to desired body or consistency, using a rubber solvent such as benzol or a petroleum solvent, such as high test gasoline.

In lieu of a synthetic resin I may employ a low boiling point natural resin, e. g., Burgundy pitch or pine oil foots. Burgundy pitch is soluble in both alcohol and benzol.

Example B

2 lbs. of plantation rubber.

5 lbs. of Mexican or wild rubber, high in natural resin content.

1 lb. of zinc oxide pigment."

* * *

Excerpt from File History of Drew II

[p. 127 of Minnesota's Exhibit XXX]

• • •

"The rejected claims are as follows:

• • •

41. An adhesive sheet comprising a flexible non-fibrous cellulosic film backing having smooth lustrous surfaces and a water-insoluble adhesive coating firmly united to said backing, said adhesive coating being comprised of rubber and a compatible tack-producing resin compounded in proportions such that the adhesive coating is normally non-offsetting, tacky and pressure-sensitive.

Minnesota's Exhibit XXX

42. An adhesive sheet comprising a transparent flexible non-fibrous cellulosic film backing having smooth lustrous surfaces and a water-insoluble normally tacky and pressure-sensitive non-offsetting transparent rubber-resin type adhesive coating firmly united to said surface, the composite sheet being transparent.

• • •

Minnesota's Exhibit XXX

[pp. 203-204]

Appeal No. 30,643 VFM

IN THE UNITED STATES PATENT OFFICE

BEFORE THE BOARD OF APPEALS

Ex parte Richard Gurley Drew

Application for Patent filed February 18, 1938, Serial No. 191,259, a division of an application filed June 10, 1933, Serial No. 675,291. Adhesive Sheeting.

Mr. Paul Carpenter for applicant.

ON PETITION FOR RECONSIDERATION

This is a petition for reconsideration of our decision dated August 8, 1939.

We have carefully reconsidered this case but find no reason for allowing claims 32, 41, 44, 45, 52 and 58 as these

claims do not state invention over the Drew patent. They distinguish over the patent only in the use of a regenerated cellulose film or a non-fibrous film. This we regard as a mere choice of a different material and one which has already been used in films as shown in the British patent. The adhesive of the Drew patent is not transparent and we do not understand that the mere omission of zinc oxide from the adhesive of the Drew patent will make a satisfactory adhesive when using a regenerated cellulose film.

In view of all the facts in this case the rejections on the ground of multiplicity and indefiniteness are withdrawn.

The decision of the examiner is affirmed as to claims 32, 41, 44, 45, 52 and 58, but is reversed as to claims 42, 46, 49, 54 to 57, 59 and 60.

The petition is granted to the extent indicated.

EUGENE LANDERS
Examiner-in-Chief)
P. EDINBURG) Board
Examiner-in-Chief) of
F. J. PORTER) Appeals
Examiner-in-Chief)

September 13, 1939
Mr. Paul Carpenter,
140 S. Dearborn St.,
Chicago, Ill.

Direct Testimony of Paul Shalita, Technical's Vice-President and Expert Witness and Colloquy of Court and Counsel

[Record pp. 3023-3028]

• • •

Q. Mr. Shalita, will you turn over to Exhibit 206, which is an excerpt from an article "Crude Rubber and Compounding Ingredients," a textbook of rubber manufacture by Henry Clemens Pearson, and there he is apparently quoting from something published in "The India Rubber World," by the India Rubber Publishing Company, 1918, is that correct? A. That's correct.

Q. And going over to the next page of Exhibit 206, I am reading under the classification "Cements."

"Many rubber factories are run wholly on this line of work, the gums being mixed as in a general rubber business, put into solution in churns, and sold by the barrel for an infinite variety of purposes. Hundreds of different formulas are in use for cements intended for general and specific purposes. The leather shoe business, for instance, calls for a dozen or more special cements. The bicycle business has need for a great many grades of what are known as tire cements. Stickiness, waterproof qualities, durability and cheapness in their goods are sought by all cement manufacturers, and, in order to secure these qualities, they demand skill in compounding in no way inferior to that shown in other lines of rubber work."

And a little below that reading we have: "Cement compounds."

And I read the first one, which is entitled "Pure Gum Cement," and that is given as "Fine Para dissolved in benzol or naphtha."

Now what kind of a rubber cement is that, Mr. Shalita? A. This is plain cement or a solution of rubber solvent as it describes.

Q. Now look at the second column under "Leather Sole Channel," and under that No. II I read the formula: "Fine

Para (washed)" and underneath: "Rosin, 5 pounds; Naphtha, 40 gallons."

Now the formula I have just read, does that disclose a pressure-sensitive rubber-resin adhesive to you? A. Yes.

Q. What are the proportions of rubber to resin in this case? A. Well, two parts of rubber to one of resin.

Q. All right. Is that adhesive—

The Court: How did you get that formula?

The Witness: Two to one it is.

Mr. Spille: Ten to five.

The Witness: Double the quantity of rubber to resin.

The Court: It is thirty to five in No. 1, isn't it?

The Witness: No. We were looking at No. 2.

The Court: Oh, No. 2, excuse me.

Mr. Spille: Two to one rubber and resin.

The Court: All right.

Mr. Spille: And that is dissolved in naphtha, is that correct?

The Witness: Yes.

Mr. Spille: Now, your Honor, I propose to go through, starting with this disclosure of 1918, to show what type of pressure-sensitive adhesives were known. I am going through a host of patents to buttress that, and then we will take up the combination of these adhesives on various backing materials.

The Court: Is that material in this case?

Mr. Spille: Yes, your Honor.

The Court: Well, as I understand it, it is not claimed that there is any invention in the adhesive, so why is it necessary to go into the prior art?

Mr. Spille: Well, we have been unable to find out from opposing counsel when they make their statement that the adhesive was known, we can't find out

which adhesive they are talking about; is it Example A, B, C, D or E?

The Court: Every adhesive. They don't claim that they invented any of them in Examples A, B, C, D and E.

Mr. Spille: Then I take it that it is conceded that there is no novelty whatsoever in any of the examples A, B, C, D or E in the Drew patent.

The Court: You had better ask counsel that.

Mr. Spille: Is that conceded?

Mr. Haight: It is conceded that you were suing on that.

Mr. Spille: No, let us not talk about what we are suing on.

Are you conceding that Examples A, B, C. D and E in the Drew patent in suit are old, or that any of them are new?

Mr. Haight: Well, let us say as to Example A and Example B, they were disclosed before this application. I do not know of any disclosure of C, D and E.

Mr. Spille: All right.

Mr. Haight: You just referred to one disclosure of the two-to-one rubber to resin, which was substantially Formula C.

Mr. Spille: No, substantially Formula E, is it not? Formula C is cumarone gum, and this is resin.

Mr. Haight: Well, of course, those two are very similar, too, but the point is that we did not claim any invention in the specific adhesive, and that specific adhesive.

. . .

Deposition Testimony of a Minnesota Sales Manager, Albert S. Drew, called by Technical as Hostile Witness

[Record pp. 2889-2945]

Mr. Spille: Your Honor, if I may now say that I propose to read into the record parts of the deposition of Albert S. Drew, Jr., and I may call attention to the fact that the deposition of Mr. Drew was taken on two different days, the first day was March 26, 1954, and it was resumed and concluded on May 17, 1954 after the witness had been instructed by counsel, Mr. Kinney, not to answer certain questions, whereupon I made a motion in federal court in Boston before Judge McCartey and got a ruling and proceeded.

Starting at page 3:

"Q. Will you state your full name, please. A. Albert S. Drew.

"Q. And your residence? A. 338 South Avenue, Weston, Mass.

"Q. How old are you, Mr. Drew? A. 60.

"Q. Are you testifying voluntarily or pursuant to a subpoena? A. Subpoena.

"Q. Are you an employee of Minnesota Mining & Manufacturing Company? A. Yes, sir.

"Q. How long have you worked for them? A. 25 years, less one month.

"Q. What position do you occupy with Minnesota Mining & Manufacturing Company? A. Business sales manager, and in the tape department, in the industrial trades division. It sounds like a long title.

"Q. Can we boil it down a little bit? What are your duties? A. In charge of sales, I guess, in New England, what we call our New England division, for that type of tape.

Testimony of a Minnesota Sales Manager, Albert S. Drew

"Q. Industrial pressure sensitive tapes? A. That is right."

Then the witness continues after the colloquy that follows:

"Our division is called Industrial Trades Division.

"Q. Does that mean you are in charge in New England of sales of pressure sensitive tape made by 3M Company to wholesalers who are distributors, who are jobbers, whose customers in turn are plants and factories? Is that a fair statement? A. I think it is, yes, sir.

"Q. In other words, you do not supervise the sales of Minnesota tape to jobbers or customers who ultimately sell to small retail stores such as Woolworth's or corner drug stores? A. No, I have very little to do with that.

"Q. How many salesmen do you supervise, Mr. Drew, at the present time? A. Eight.

• • •

"Q. Can you name the salesmen who presently are under your direction? A. I can by referring to a list.

"Q. Well, I will pick out the names. This will be a little leading, but you know what I am after. Is one of your salesmen named Wiggins? A. That is right.

"Q. Is another of your salesmen named Shepardson? A. Right.

"Q. Is his first name Dan or Daniel? A. Dan. D. B. are his initials.

"Q. D. B. Shepardson? A. Yes.

"Q. Is another of your salesmen named Niles? A. Yes.

"Q. What is his first name, do you recall? A. May I refer—

"Q. Surely. A. His name is Bud. Seymour, I think it is. Just a minute. S. M. Niles. Seymour Niles.

"Q. Are you commonly known to the trade as Al Drew? A. That's right.

Testimony of a Minnesota Sales Manager, Albert S. Drew

"Q. How long have you worked as Division Sales Manager, industrial, in New England, for Minnesota Mining? A. The Boston Branch was broken away from New York in 1945. I had the responsibility of both retail and what is now known as Industrial Trades Division. That responsibility was split two to three years ago, as a guess, to the best of my memory.

"Q. Well, since at least 1945 you supervised industrial sales in the New England area for 3M, is that correct? A. Right.

"Q. Incidentally, you are related to Richard Gurley Drew in any way? A. Yes, he's my brother.

"Q. And he is the gentleman's name who appears as the inventor on the patent we call the cellophane tape patent? A. That's my understanding. I don't know anything about it, sir.

"Q. Are you in a policy-making position for Minnesota Mining & Manufacturing Company? A. No, sir.

"Q. Do you carry out policy transmitted to you through the chain of command? A. To the best of my ability.

"Q. And in that chain of command your immediate contact is Mr. Bennison? A. Right.

"Q. And do you know who directs Mr. Bennison's activities, or supervises them? A. Recently they have appointed a general sales manager in St. Paul, the home office. E. W. Decker.

"Q. Who preceded Mr. Decker? A. Mr. W. E. Zimmerman, who is now general manager of the division.

"Q. And do you know who preceded Mr. Zimmerman? A. As I remember it, that was the responsibility then of a Mr. C. C. Smith, who had the responsibility of both divisions of tape sales.

"Q. In other words, all these gentlemen, Mr. Decker, Mr. Zimmerman and Mr. Smith would occupy a position which you might call, for want of a better word, general sales manager—A. Right.

Testimony of a Minnesota Sales Manager, Albert S. Drew

"Q. For the entire company? A. I think I better ask you to repeat that."

The question was read back and the witness said: "Right."

Then the witness interjected—I am skipping a little colloquy—

"No, these gentlemen are lmited to tape."

Continuing on page 8:

"Q. Who would be above the various gentlemen you just named, in other words, this general sales manager's position? A. Mr. L. F. Weyand; he is executive vice-president."

I am skipping a part now.

"Q. Do you know a Mr. Lloyd Arnold? A. Yes, I know him.

"Q. When did you last see him? A. As he walked out this door.

"Q. You were not present when Mr. Arnold testified, were you? A. No, sir.

"Q. Did you confer with Mr. Kinney after Mr. Arnold left? A. Very, very possibly."

I am skipping several pages. I am on page 10 now:

"Q. Pardon me. I am a little at a loss on this retail business. Do you know the name of this salesman who worked in the Pawtucket area for Minnesota Mining in 1953, salesman or salesmen? A. To be sure, I know of only one, that's J. B. Wiggins, but I am quite sure there were others, but not in my division.

"Q. Is he also known as Jack Wiggins? A. Right.

"Q. How old a man is Mr. Wiggins approximately? A. Approximately 40 years old.

Testimony of a Minnesota Sales Manager, Albert S. Drew

"Q. Has he been with Minnesota Mining—A. Approximately eight or nine years.

"Q. Eight or nine years. All right. In 1953 was Minnesota Mining & Manufacturing Company selling pressure sensitive tape to Lloyd's Office Supply in Pawtucket? A. May I refer to a note?

"Q. Surely. A. Yes, sir.

"Q. Do you know when Minnesota Mining & Manufacturing Company commenced to sell pressure sensitive tape to Lloyd's Office Supply Company? A. No, I don't think I can answer that. I don't know. My memorandum shows that the first sales we have in our records in Boston were 1950.

"Q. 1950 to Lloyd's Office Supply? A. A memorandum given me, and I am referring now to the record of the Industrial Trade Division."

Then we had some colloquy off the record. I am resuming and I am skipping, on page 11:

"Q. Does the Minnesota Mining & Manufacturing Company now sell pressure sensitive tape to Lloyd's Office Supply? A. No, sir, not to my knowledge.

"Q. When did they stop or when did Minnesota stop? A. Approximately the latter part of July or first part of August 1953.

"Q. Do you know the circumstances under which such sales ceased?"

Then we had several objections by Mr. Kinney. In fact he had a continuing objection to this whole examination. I resumed the questioning. The last question was read back.

"Q. That is sales to Lloyd's Office Supply. A. I don't know what the conversation was between Mr. Wiggins and Mr. Lloyd."

Apparently he means Mr. Arnold.

"A. I know approximately what the conversation was between myself and Jack Wiggins.

"Q. You do know, apparently, that there was a conversation between Mr. Wiggins and Mr. Lloyd Arnold in July 1953? A. Yes, sir.

"Q. Relative to Lloyd's Office Supply continuing to buy 'Scotch' brand pressure sensitive tape? A. Right.

"Q. Do you know whether there was any altercation between Mr. Arnold and Mr. Wiggins on that subject? A. If there was, there was no knowledge of it to me. I have no knowledge of it.

"Q. You have no knowledge of it. Did Mr. Arnold in the latter part of July or August 1953 call you on the telephone at Newton Center? A. As I remember it, he did.

"Q. Do you recall the conversation? A. No, only it was pertaining to his removal from our list of distributors.

"Q. Then the Minnesota Mining & Manufacturing Company did remove Lloyd's Office Supply as an authorized distributor of 'Scotch' brade pressure sensitive tape? A. That is right.

"Q. Is that correct? A. That's correct.

"Q. And that occurred in August 1953? A. Yes.

"Q. Has Minnesota Mining & Manufacturing Company, since August 1953, sold pressure sensitive tape to Lloyd's Office Supply? A. Not to my knowledge. Not in my division.

"Q. Is the policy of Minnesota Mining & Manufacturing Company not to sell to Mr. Lloyd Arnold? A. Not until he is reinstated as a distributor.

"Q. I see. Do you know what the Minnesota Mining policy is regarding distributors or jobbers in the industrial field? A. In a general way. There are quite a few conditions in there.

Testimony of a Minnesota Sales Manager, Albert S. Drew

"Q. Has the policy changed in any way in the last two years? A. There has been a slight—there has been a change, yes.

"Q. Do you know what the change is? A. Yes, sir.

"Q. Can you tell us? A. We now have a policy—"

Then there was an interruption by Mr. Kinney.

Mr. Haight: May it please the Court, that was an objection that was then stated.

Mr. Spille: Surely.

Mr. Haight: On the ground that Mr. Drew was not in a policy-making position.

Mr. Spille: Well, let us read it in, if you want.

Mr. Haight: I think perhaps that is the easy way.

Mr. Spille: After Mr. Drew answered, "We now have a policy—

"Mr. Kinney: Let me interpose this objection, Mr. Spille. I think you understand from what Mr. Drew has already said, he does not make policy.

"Mr. Spille: No, I am simply examining him on his knowledge.

"Mr. Kinney: If there is anything critical of what Minnesota Mining & Manufacturing Company's policy is, this witness is not the right one to get that information from.

"Mr. Spille: I assume there is a possibility of that. I simply asked if he knew what the policy was.

"Mr. Kinney: What his understanding was of the policy.

"Mr. Spille: That is right, and we must take up later the question of how correct or authoritative his understanding may be."

I am resuming the questioning:

"Q. Can you tell us what that policy is, or what your version of it is? Let's take 1950 as a base year. What was

the policy of Minnesota Mining & Manufacturing Company with regard to distributors and jobbers handling or about to handle pressure sensitive adhesive tape? A. Well, they had to meet certain requirements. They had to have an office. I am reciting this from memory.

"Q. Yes. A. They had to have a warehouse. They have to have one salesman over and beyond the owner or manager, and, of course, always essential, being able to pay their bills. We also wanted to know what field of endeavor they were working in, that is, what class of customers they were calling on."

Now I am skipping the part I asked about identification of another salesman.

"Q. Do you have an assistant named Al Hill? A. Yes, sir.

"Q. What is his first name, please? A. I don't know. A. R. Hill. Allen, I believe, but I am not sure.

"Q. Allen or Allan? A. I don't think I better try to answer that.

"Q. How long has he been your assistant? A. Approximately three years.

"Q. Referring back to this policy, as I understand it in 1950, a jobber in the industrial field for 3M had to have a warehouse, an office, and at least one salesman besides the owner, and should pay his bills satisfactorily, is that correct? A. There were things over and beyond that.

"Q. Can you tell me anything of significance? A. That's why I wondered if I had skipped it.

"Q. Yes, please continue."

And we had an interruption from Mr. Kinney. He wanted to know the materiality. And after some colloquy on page 16 Mr. Kinney said: "Then the witness stands directed not to answer the question."

On page 17 I asked this question:

Testimony of a Minnesota Sales Manager, Albert S. Drew

"Q. In 1951, for example, need an authorized jobber have a warehouse, an office and at least one extra salesman, and pay his bills with reasonable promptness?

"Mr. Kinney: I object to that question unless some relevancy for it appears, and I instruct the witness not to answer."

I continued:

"Q. You refuse to answer. In 1952 in order for a jobber or distributor to be qualified to handle 3M pressure-sensitive tapes, was it sufficient if he had a warehouse, an office, at least one extra salesman, and pay his bills promptly?"

Then we have colloquy on page 18. Mr. Kinney objected to the question and directed the witness not to answer.

I asked the same question regarding 1953, then the same question up to that time in 1954, and the same instruction at all times.

On page 18 we brought back the subject of the conversation with Mr. Arnold.

On page 19. I am resuming reading:

"Q. You think it is. Now in 1953 do you know what the facilities of Lloyd's Office Supply Company were? In other words, did you know anything about their physical setup? A. Only as I got it from Jack Wiggins.

"Q. Did Mr. Wiggins inform you it was a satisfactory distributor? A. To my knowledge, yes.

"Q. In 1953? A. Yes. To the best of my memory.

"Q. But later in 1953 Minnesota Mining refused to sell to Lloyd's Office Supply any further, is that correct?

"Mr. Kinney: You mean under any conditions?

"Mr. Spille: He can answer.

"The Witness: May I have the question read?"

And it was read.

Testimony of a Minnesota Sales Manager, Albert S. Drew

"A. You mean following my knowledge of his physical setup?

"Q. Following your knowledge of his physical setup. A. That's right.

"Q. They refused after you learned what the physical setup was? A. That's right.

"Q. And how did you learn about the physical setup? A. I think it was casual conversation or more business conversation between myself and Mr. Wiggin.

"Q. And when did that occur? A. I don't know, sir. I don't know when that changed. As I remember it, when they first went into the business, they were operating from a house with a garage as a warehouse. That is as I remember it, but I don't know the place.

"Q. And that was in 1953? A. No, I don't think so. I think that was previous to 1953.

"Q. But in 1953 the physical setup of Lloyd's Office Supply was satisfactory for him to be treated or regarded as a jobber and distributor, is that correct? A. It was so reported to me.

"Q. By Mr. Wiggins? A. Yes, sir."

> And Mr. Kinney wanted to know what the physical set up was. I won't read that. We had some discussion.
>
> On page 21 I said: "Does he pay bills? That is physical setup.
>
> 'The Witness: I can't remember whether we ever had notice from our Credit Department in our headquarters office that he was delinquent.

"Q. So to the best of your knowledge, his payment record was satisfactory? A. Right.

"Q. I am referring to Lloyd Arnold. So sometime in 1953, Mr. Wiggins, your salesman under you, had reported that Lloyd's Office Supply was a satisfactory prospect as

a distributor or jobber for 3M tape? A. I would like that repeated."

The question was read, and Mr. Kinney says:

"You are asking a question. You are not summarizing what he says."

And I said: "That is a question to be answered yes or no.

"Q. No, I am only interested in what Mr. Wiggins had reported to you in 1953."

And we had colloquy off the record.

On page 22 the witness stated:

'As I remember it, Mr. Wiggins reported to me that Mr. Lloyd Arnold's interest in our product was on the decline."

I am skipping a part.

"Q. All right, don't guess. We don't want guesswork. Let me see if I can refresh your memory. Was it before or after Minnesota Mining declined to sell any more pressure-sensitive adhesive tape to Lloyd's Office Supply? A. It was before.

"Q. Before. Did Mr. Wiggins indicate why he believed or knew that Mr. Arnold's interest in 3M product had declined?"

Then we had more argument on the record and Mr. Kinney instructed the witness not to answer.

• • •

Mr. Spille: Now we are on the subject of whether Mr. Wiggins indicated or didn't indicate why Mr. Arnold's interest had apparently declined. I am reading from the bottom of page 23:

Testimony of a Minnesota Sales Manager, Albert S. Drew

"The Witness: He probably indicated it. We talk over, naturally, our various accounts and our various distributors."

And I resuming:

"Q. What was the indication that you recall that Mr. Wiggins gave you on that subject? A. That he wasn't active in—

"Mr. Kinney: I object to the question and instruct the witness not to answer it.

"Q. You refuse to answer, Mr. Drew? A. I am so instructed.

"Q. Did Mr. Wiggins tell you that Lloyd's Office Supply was now carrying, and for some time had been carrying 'Tuck' Brand tape or the pressure-sensitive tape made by Technical Tape Corporation? A. Are you referring to a particular conversation?

"Q. At any time. A. Yes, he made it known to me in general.

"Q. When did he make it known to you? A. From memory, sometime probably in 1952, possibly 1951. It wasn't unusual, so I don't remember the date.

"Q. Could it have been 1953? A. It could have been in 1953, and that is a conversation that followed conversations in 1952."

After he indicated he was present at the Trachtenberg deposition that morning, I asked this question:

"Q. Has Minnesota Mining & Manufacturing Company now in force an exclusive dealer policy regarding pressure-sensitive tape?

Testimony of a Minnesota Sales Manager, Albert S. Drew

"Mr. Kinney: I don't believe I understand that question."

And it was read back.

"Mr. Kinney: I object to it because I don't understand it.

"Q. I will ask the witness, do you understand the question? A. I think I know what you are asking me, but I—

"Q. My question is, do you understand the question. A. I don't believe I do well enough to give a definite answer.

"Q. I will rephrase it. Do you know whether or not it is now the policy of Minnesota Mining & Manufacturing Company, in selling pressure-sensitive adhesive tape to jobbers and distributors in the industrial field, to expect jobbers and distributors to sell only Minnesota Mining & Manufacturing Company tape? Do you know? A. Do I know whether that condition exists?

"Q. Yes, sir.

"Mr. Kinney: The question is does he know whether there is a policy in that regard. I suppose you want a yes or no answer on it.

"Mr. Spille: Yes. Read the question.

"Mr. Kinney: Do you know?

"(Question read.)

"A. That policy does not apply to all jobbers.

"Q. So you do have a policy of requiring some jobbers to carry only Minnesota Mining & Manufacturing Company tape, is that correct?

"Mr. Kinney: I object to that.

"Mr. Spille: I think he volunteered it. You did not object to my question. He said the policy applies to some jobbers.

"Mr. Kinney: If the witness understands the question, he can answer it.

"(Question read.)

"A. I don't think I personally would call it a policy.

"Q. All right, but is it true—A. I would say it is an agreement.

"Q. Is it true that Minnesota Mining & Manufacturing Company sells to some jobbers and distributors who have agreed not to sell competitive pressure-sensitive tape?

"Mr. Kinney: I object to that question. I object to the form of the question and instruct the witness not to answer it."

And we have the usual argument. Mr. Kinney said: "The objection and instruction stands."

And I announced I was going to have a ruling on that question.

On page 27, I am resuming the questioning:

"Q. Did you know that Minnesota Mining & Manufacturing Company was selling pressure-sensitive adhesive tape to Edwards Paper Company in Roxbury? A. Did I know that?"

"Q. Yes. A. Yes, I did."

I am skipping over to page 28, a lot of discussion off the record.

"Q. In other words, when a new account comes in, you are informed of it, shall we say, within a week or so? A. Are we talking about the consumers or the distributors?

"Q. Distributor or jobber. A. Yes, I am.

"Q. So it is highly probable that when Edwards Paper Company began to buy 'Scotch' brand pressure-sensitive adhesive tape you knew about it within a week of the start? A. That's right.

"Q. Did you approve? A. Yes.

"Q. Did you know at the time that Edwards Paper Company was also selling pressure-sensitive adhesive tape made by Technical Tape Corporation? A. No, sir.

"Q. When did you find that out, assuming you did?

"Mr. Kinney: That is if he knows.

"Mr. Spille: If he knows. If he says he doesn't know, he doesn't know.

"A. I don't think I remember well enough to try to testify.

"Q. Does Minnesota Mining & Manufacturing Company still sell pressure-sensitive adhesive tape to Edwards Paper Company? A. Not to my knowledge."

On page 29, I am skipping:

"Q. Do you know under what circumstances Minnesota Mining & Manufacturing Company declined to sell any more 'Scotch' brand pressure-sensitive adhesive tape to Edwards Paper Company?

"Mr. Kinney: I object to the question.

"Mr. Spille: I just asked him if he knows.

"Mr. Kinney: It presumes something which I don't think is established by your testimony here."

And we had an argument as usual.

Mr. Kinney finally says he would like me to revise the form of the question.

On page 30 I say:

"Q. Does Minnesota Mining & Manufacturing Company decline or refuse to sell 'Scotch' brand pressure-sensitive adhesive tape to Edwards Paper Company? A. At the present time, yes.

"Q. When did you first stop or refuse, do you know? A. Sometime I think the first part of '53.

Testimony of a Minnesota Sales Manager, Albert S. Drew

"Q. Assuming that some information was transmitted from 3M to Mr. Trachtenberg of Edwards Paper Company, that Minnesota Mining & Manufacturing Company declined to sell him any further, do you know who transmitted the message? A. R. H. Burhoe.

"Q. By personal call or by telephone? A. I don't know.

"Q. Did you instruct Mr. Burhoe to get in touch with Mr. Trachtenberg of Edwards Paper Company to do this? A. Yes, sir.

"Q. So what Mr. Burhoe said was directly at your instruction? A. I don't know what he said.

"Q. But assuming that Mr. Burhoe told Mr. Trachtenberg that 3M would not sell him any more, that that had your complete approval? A. Right.

"Q. Do you decide on your own initiative which jobbers are dropped and which are selected to carry pressure-sensitive adhesive tape?"

And it was indicated it was as of the present time.

"A. No, sir.

"Q. Did you at any one time ever have that authority? A. Yes, sir.

"Q. When did you have that authority? When did it cease? Let's put it that way. A. Approximately sometime during the year 1953, as I remember.

"Q. Can you tell us how that termination of your former authority was transmitted to you? Was it by letter or by telephone?

"Mr. Kinney: I think that is irrelevant and I object to the question, and instruct the witness not to answer."

I said I was going to insist on an answer.

"Q. Were you instructed by higher management to stop deciding to take on or drop distributors or jobbers?

"Mr. Kinney: I object to the question and instruct the witness not to answer."

Page 32, I am skipping the identification of various people:

"Q. Does Minnesota Mining & Manufacturing Company sell pressure-sensitive adhesive tape to Alles Paper Supply Company of Boston, Mass.? A. Yes, sir.

"Q. Have you done so for several years? A. Yes, sir.

"Q. Three or four years? A. Yes, sir. I think longer than that."

And we identify a Mr. Berman of that company.

"Q. Did you ever tell Mr. Berman that Minnesota Mining was setting up a list of distributors who were not to handle competitive pressure-sensitive adhesive tape, but should deal exclusively with Minnesota Mining? A. I discussed a proposition with him.

"Q. What was the proposition? A. I told him what we had to offer.

"Q. What was that? A. The entire facilities of our sales force, laboratory, customer engineering.

"Q. Did you ask Mr. Berman not to carry"—

Well, I won't read that. They can offer it.

Mr. Haight: You might as well read it right in the context.

Mr. Spille: I will read it, but I don't offer it.

Mr. Haight: If the Court please, I will read it.

"Q. Did you ask Mr. Berman not to carry other brands of pressure-sensitive adhesive tape? A. No, sir.

Mr. Spille: He denies it. O. K.

"Q. What was the deal you had to offer him? I didn't get it all. A. Where we offered him or his company all

or practically all, or maybe all that, we offered our own sales force in the sale of our product, there is tools—

"Q. Does the Alles Paper Company, to the best of your knowledge, carry the pressure-sensitive adhesive tape of Minnesota Mining exclusively? A. I can't say at the moment what he is doing.

"Q. Do you know whether the Alles Paper Company in the past has handled other brands of pressure-sensitive adhesive tape? A. It has been reported to me by our salesman and by Mr. Berman, that he did.

"Q. Did Mr. Berman tell you in the recent past, say within a year, that he will no longer carry anything of"—

It should be "but".

". . . but 'Scotch' brand pressure-sensitive tape?"

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"A. He told me he wanted to think about it very seriously.

"Q. When did this conversation occur? A. Oh, approximately last—

"Q. Last summer? A. No. Later than that. Fall, November, maybe October.

"Q. November or October 1953. Did Mr. Berman, let's say since last summer, tell you that he has decided to play ball with Minnesota Mining & Manufacturing Company? A. He told me very favorably he thought very favorably of our proposal to him.

"Q. That was not my question. Did he tell you that he has decided to play ball or to go along? A. I don't remember that he used those words.

"Q. Was the import or tone of his statement to you along the same lines?"

Mr. Kinney objected.

Testimony of a Minnesota Sales Manager, Albert S. Drew

Page 35, I continue:

"Q. Did Mr. Berman tell you that he had decided to give up all other competitive brands of pressure-sensitive adhesive tape for six months, and to carry Minnesota Mining tape exclusivey during that period? A. For six months?

"Q. Yes. A. I can't remember any such conversation.

"Q. Was it a lesser period? A. I can't remember that there was any time put on it.

"Q. Did he mention a trial period?"

And we have another interruption. Mr. Kinney says: "This is a trial period for what?"

"Q. Do you understand the question? A. I think I understand the question.

"Mr. Spille: All right. Please let him make an answer.

"The Witness: Yes, he did."

Mr. Haight: You had better get the next two questions, Mr. Spille.

"Q. Is he now in the midst of this trial period? A. To the best of my knowledge."

Mr. Haight: The next one:

"Q. So to the best of your knowledge he is carrying Minnesota Mining & Manufacturing Company pressure-sensitive tape exclusively? A. No, I don't say that."

Mr. Spille: "Q. You are not sure of that, right?

"A. I am not sure."

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Testimony of a Minnesota Sales Manager, Albert S. Drew

Mr. Spille: Now I am going to go over to the second day of Mr. Drew's testimony, which was again taken in Boston on May 17, 1954. This was after I had made a motion to compel the witness to answer, and Judge McCarthy had ruled in my favor.

The Court: On all the objections that were made?

Mr. Spille: Yes, sir.

Now, your Honor, may I correct myself, unless I create an erroneous impression, inadvertently. He could only rule on whether the witness should or should not be compelled to answer. He couldn't rule, really, on the relevancy or materiality. He did rule on the form of questions and told me to change the form.

The Court: But all the objections that were raised were resolved in your favor?

Mr. Spille: Yes, sir. He told him to answer the question.

Did I state it was May 17th?

The Court: Yes.

Mr. Spille: Page 43:

"Q. In view of Judge McCarthy's rulings, I am going to ask you again the questions which your counsel,"—and here the reporter put in "Mr. Spinney," and it should be "Kinney"—"previously instructed"—and he put in "him" —"you not to answer, and I will also attempt to clear up one objection as to form that was raised before the motion."

I put this question:

"Can you tell us what the policy is, and let's take 1950 as a base year, what was the policy of Minnesota Mining & Manufacturing Company with regard to distributors and jobbers handling or about to handle pressure-sensitive ad-

hesive tape? A. They were to have an office and a warehouse.

"Q. And were they the only conditions? A. Oh, no; they were to have a sales force of at least one other than the owner; their credit, of course, must be right and good; they should have contact with manufacturers who would be our customers.

"Q. By 'ours,' you are referring to Minnesota Mining & Manufacturing Company? A. To Minnesota Mining & Manufacturing Company. They should carry an adequate stock to properly take care of the immediate needs at least of those customers. They should have more than one customer, and the bulk of their buying should go to more than one customer."

I am skipping.

The witness then stated:

"I can add one more to that now—that this jobber carry lines that would also go to the same type of customers that we would be calling on.

"Q. Back in 1950, was this jobber or distributor in the industrial field for Minnesota pressure-sensitive adhesive tapes free to resell tapes to whomsoever he chose? A. We did not approve of his selling them to a jobber, but outside of that, yes."

I am skipping a lot of intermediate stuff.

On page 47 I asked the witness this question:

"Q. Was it a hard and fast rule in this policy, back in 1950, that if a jobber had only one customer for Minnesota tape, he would not be permitted to become a jobber or continue as a jobber for Minnesota—was that a hard and fast

rule? A. It certainly was not approved of, if it existed. I can't remember any case where it did exist."

And then I commented:

"I am examining Mr. Drew, of course, under Rule 26, as a hostile witness."

I don't think we need any doubt as to that.

Then we had some discovery questions again. I am going over them rapidly.

On page 53:

"Q. In 1952 had Minnesota's policy with regard to distributors changed in any way? A. No, sir.

"Q. In 1953 had it changed in any way? A. No, sir.

"Q. Is it the same today as it was in 1950? A. Yes, sir.

"Q. I believe you told us previously that you have entered into agreements with certain distributors or jobbers to carry Minnesota tape exclusively; is that correct? A. Before answering that, I would like to know, if I may, Mr. Spille, just what is meant by the word 'agreement.'

"Q. I suggest you ask your counsel. I dare not try to instruct you, Mr. Drew. A. I don't care to be instructed. I just don't want any danger of there being two different interpretations of the word 'agreement.'

"Q. Suppose I ask you then if you have made any gentleman's understandings or agreements with any jobbers or distributors to handle Minnesota tape exclusively? A. In this respect: That we have proposed certain things and they have or have not accepted them."

Then we had a long discussion.

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Testimony of a Minnesota Sales Manager, Albert S. Drew

Mr. Spille: Resuming after that question, which perhaps for clarity I had better read:

"Q. Suppose I ask you then if you have made any gentleman's understandings or agreements with any jobbers or distributors to handle Minnesota tape exclusively. A. In this respect: That we have proposed certain things and they have or have not accepted them."

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"Q. Let me ask you this, Mr. Drew: In denying that you would call it a policy of requiring jobbers or distributors to carry only Minnesota tape, you previously said:

'I don't think I personally would call it a policy. I would say it is an agreement.'

"Is that correct? A. Yes, sir.

"Q. And you have restated that testimony, is that correct? A. Right.

"Q. Do you deny that you have agreements with jobbers or distributors—yes or no? A. I can't answer it yes or no.

"Q. All right; then answer it in your own way. A. I don't know just what the word 'agreement' constitutes in your mind. I know we made proposals and they have been accepted sometimes and rejected sometimes.

"Q. In those proposals which have been accepted has the jobber or distributor agreed not to carry anything but Minnesota pressure-sensitive tape? A. Competitive to ours, yes.

"Q. They have made such agreements? A. They have said they would try it and see."

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"Q. They have made such agreements? A. They have said they would try it and see.

Testimony of a Minnesota Sales Manager, Albert S. Drew

"Q. Name the distributors or jobbers who have made such agreement?"

Then there was an objection. I threatened to go back to Judge McCarthy to get him to answer and finally Mr. Hamilton said:

"I will let the witness answer if he knows."

And then the witness continues:

"A. We have 25 or 30.

"Q. Where are they located, sir? A. New England. There may be more than that.

"Q. There may be more than that? A. Yes.

"Q. And these agreements date from the summer of 1953; is that correct? A. I don't like to have the word 'agreement' come in because I think there is a difference between your interpretation of it and mine.

"Q. Let's term it the acceptance of your proposals or gentleman's understanding, if that is a less obnoxious term. You say there have been 25 or 30 acceptances of your proposals or gentlemen's understandings in New England; is that correct? A. Yes, sir.

"Q. And those are all industrial jobbers or distributors who handle pressure-sensitive tape? A. Yes.

"Q. To the best of your knowledge, did any of them handle pressure-sensitive tapes of Technical Tape Corporation? A. I can think now of two.

"Q. Will you please name them? A. Alles Corporation and I think Stimson, Inc."

Your Honor, we previously I think have identified Alles.

"Q. Where is Stimson, Inc. located? A. Boston.

Testimony of a Minnesota Sales Manager, Albert S. Drew

"Q. Alles Corporation is Mr. Berman's company? A. That is right.

"Q. Are those acceptances of your proposals or gentlemen's understandings currently in force? A. I have not been advised otherwise, so I will say yes.

"Q. Did you make the agreements or proposals or understandings which were accepted? A. In those two cases, yes, I did.

"Q. Who handled those matters in the 23 or 28 other cases? A. The salesmen. Many of those firms, Mr. Spille, had always done business with us to the exclusion of any competitors."

I am now skipping down to the bottom of page 61:

"Q. Is it your testimony, sir, that with the exception of Alles Corporation and Stimson, the main 23 or 28 did not accept such proposals or make such gentlemen's agreements or understandings with Minnesota? A. I can't quite get what you want, Mr. Spille. I want to answer the question."

Then there was a short recess and the answer was:

"A. Others accepted, but others to my memory and knowledge, were not handling Tuck tape, but were handling other tapes."

"Q. Then there is a total of approximately 25 or 30 jobbers in the New England area who have accepted the proposals you made or with whom you have a gentlemen's understanding, is that correct? A. Not as you word it, Mr. Spille.

"Q. I withdraw the question."

Then the witness volunteered:

Testimony of a Minnesota Sales Manager, Albert S. Drew

"A. As I previously said, there were many of those distributors who had never handled competitive tapes, so we had no proposal to make to those people. We did announce to them what we were going to do.

"Q. How many of these 25 or 30, prior to the acceptance of these proposals or the making of these gentlemen's agreements, had been carrying brands of pressure-sensitive tapes other than Minnesota's brands? A. 5 or 6.

"Q. Can you name those 5 or 6? A. G & S Paper Company, West Newton.

"Q. What brands had they handled prior to this gentlemen's agreement? A. I knew they were handling Permacel. They may have been handling others besides Permacel.

"Q. That is one. A. H. J. Dowd Company, Cambridge.

Q. What brands had H. J. Dowd Company been handling? A. Permacel.

"Q. And perhaps others? A. Perhaps others; I am principally aware of Permacel.

"Q. Incidentally, H. J. Dowd Company is one of the larger distributors or jobbers in the Boston area; is that correct? A. That is correct.

"Q. What is the third one? A. D. F. Monroe.

"Q. Where is that located? A. Boston.

"Q. What brand had they been carrying? A. I think they were carrying Seamless."

The Court: What is that name?

Mr. Spille: Seamless.

The Court: That is a new name?

Mr. Spille: It is new to me. Mr. Cohen isn't here, your Honor, and I can't tell you much about it.

Mr. Haight: That is the Seamless Rubber Company. They make this pressure-sensitive tape.

Mr. Spille: Do you know what brand, Mr. Haight?

Mr. Haight: Paper masking and filament tape.
The Court: All right.
Mr. Spille: (Continuing reading)

"Q. And perhaps others? A. I don't think so.
"Q. What is the fourth one? A. I want to go back to H. J. Dowd, if I may.
"Q. Surely. A. H. J. Dowd surely carries Bauer & Black.
"Q. H. J. Dowd carries Bauer & Black as well as Permacel? A. Yes; and they still carry Bauer & Black."

Now going to the bottom of the page:

"Q. I think you stated there was a total of 7. A. I don't think there were that many. Perhaps Whitney Brothers.
"Q. Where are they located? A. Boston.
"Q. What brand were they carrying, sir? A. If they were carrying any, it was Permacel, as I remember it.
"Q. You cannot at the present time recall any other specific companies; is that correct? A. Yes, sir.
"Q. Is G & S Paper Company quite a large jobber or a small jobber? A. They are small jobbers but they are very active."

Mr. Spille: And then he characterized some of the others as large or small. I am skipping that.
Page 66 after some colloquy:

"Q. Suppose we go back, and I will try to clear it up. When you entered into these gentlemen's agreements with these 25 or 30 distributors or jobbers—whatever the number was—was that with the approval of your superiors in Minnesota? A. I reported afterward with whom I had had these conversations.
"Q. Did your superiors disapprove of the action you had taken? A. No, sir.

Testimony of a Minnesota Sales Manager, Albert S. Drew

"Q. So you understood you were authorized to make the proposals? A. Yes, sir. I still do not like the word 'agreement.'

"Q. To whom did you make your report? Which of your superiors in Minnesota did you speak to? A. I probably started with Mr. Bennison.

"Q. Again, were these reports oral or in writing? A. They were very apt to be both."

Then skipping over to page 67:

"Q. These various jobbers we have been discussing carried or have carried both cellophane tapes and masking tape, is that correct? A. That is correct.

"Q. In other words, in making these various understandings or proposals, you drew no distinction between cellophane tape and other pressure-sensitive tapes—for all you knew they were treated as one class? A. That is correct."

Now bottom of page 67:

"Q. I believe in your testimony on March 26th you stated that you once had authority to decide which distributors and jobbers you would retain and which distributors and jobbers you would drop? A. That is right.

"Q. Is that correct? A. That is correct.

"Q. Can you tell me when your authority to take such action was terminated? A. I don't believe there has been anything written until quite recently, but it has been pretty well understood for the last two years, let us say.

"Q. That your authority— A. Advise with and discuss with my immediate superior. I think that came into effect when Mr. Bennison moved east as regional sales manager.

"Q. So to your best recollection, Mr. Bennison was responsible for terminating your authority to take such

action? A. No, I don' think so, in the way in which I think you mean that, Mr. Spille. It is just that previous to that, I had to go as far as St. Paul, Minnesota, to discuss anything with anybody. When Mr. Bennison came east as regional sales manager, it gave me somebody I could sit down and talk with.

"Q. Let me put it this way: In taking such action or inaction with regard to jobbers before Mr. Bennison's promotion--and I assume he was promoted—you had previously acted somewhat autonomously, or had made your own decisions as to what to do, but after Mr. Bennison's arrival, you got the okay or approval from him; is that right? A. Yes."

That ended the examination and there was no cross-examination.

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Direct Deposition Testimony of A. Trachtenberg, Boston Paper Merchant called by Technical

[Record pp. 2732-35, 2740-42, 2747-48, 2755]

"Q. Will you please state your full name? A. Abraham Trachtenberg.

"Q. And your age, please? A. 39.

"Q. Where do you reside? A. 19 Oakwood Terrace, Newton Center, Mass.

"Q. Are you in business, Mr. Trachtenberg? A. I am.

"Q. What is the nature of your business? A. Paper merchant.

"Q. Do you do business under your own name? A. No.

"Q. What name do you do business under? A. Edwards Paper Company.

"Q. Edwards Paper Company. That is the offices where we are presently located? A. Yes.

Deposition Testimony of A. Trachtenberg, Boston Paper Merchant

"Q. 33 Simmons Street, Roxbury? A. Right.

"Q. Is the Edwards Paper Company a sole proprietorship of you? A. No.

"Q. Will you please explain your relationship to Edwards Paper Company. A. Partner.

"Q. A partnership. A. Partnership.

"Q. How long has the Edwards Paper Company been in business. A. 1945.

"Q. You started—A. Started in 1945.

"Where were you located then? When I say 'you' I am referring generally to Edwards Paper Company. A. On Milk Street in Boston.

"Q. Do you recall the exact address? A. 208.

"Q. And when did you move to the Simmons Street address, approximately? A. July 5, 1953.

"Q. Now, will you explain what business the Edwards Paper Company conducts? A. We are jobbers.

"Q. In what fields, Mr. Trachtenberg? A. Selling to the industrial fields or the industrial consumers.

"Q. What type of products do you sell? A. Kraft paper, gum tape, twine, tissue, toilet paper, pressure-sensitive tapes, and so forth.

"Q. You mentioned pressure-sensitive tape. From whom does Edwards Paper Company get its supply of pressure-sensitive adhesive tape? A. Technical Tape.

"Q. Did the Edwards Paper Company ever get pressure-sensitive adhesive tape from any other company besides Technical Tape Corporation? A. Yes.

"Q. Can you identify that other company? A. Yes.

"Q. What is it, please? A. Minnesota Mining.

"Q. Minnesota Mining and Manufacturing Company? A. Yes.

"Q. When did you commence stocking and reselling pressure-sensitive adhesive tape made by Technical Tape Corporation, approximately? I don't mean the exact date. A. Oh, 1947.

Deposition Testimony of A. Trachtenberg, Boston Paper Merchant

"Q. When did you commence carrying pressure-sensitive adhesive tape made and sold to you by Minnesota Mining & Manufacturing Company? A. 1952.

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[Record p. 2740]

"Q. I believe you previously testified you no longer carry Minnesota Mining & Manufacturing Company pressure-sensitive tapes. A. We do not.

"Q. Will you please explain how and why you ceased to carry Minnesota Mining tape. A. They shut it off.

"Q. When did that occur? A. Early in 1953.

"Q. All right. Can you recall specifically what happened at that time? A. Yes. I received a telephone call from Minnesota Mining Corporation, whatever the name is—

"Q. Did the person identify himself who spoke to you? A. Yes, it was Mr. Burhoe.

"Q. Do you recall what month it was, Mr. Trachtenberg? A. (no response.)

"Q. If you don't recall, just say so. A. I believe it was somewhere in the early part of 1953. I think it was February. I wouldn't swear to it.

"Q. Now, what did Mr. Burhoe say to you at the time? A. Mr. Burhoe said to me that he was speaking for Mr. Drew.

"Q. Did he identify Mr. Drew? A. Yes.

"Q. How did he identify him? A. Identified Mr. Drew as being his superior."

That is a brother of the one we had on the stand, your Honor.

The Court: Yes.

Mr. Morris: (Reading)

Deposition Testimony of A. Trachtenberg, Boston Paper Merchant

"Q. In the Minnesota Mining & Manufacturing Company? A. In the Minnesota Mining & Manufacturing Company.

"Q. And what did Mr. Burhoe tell you? A. Mr. Burhoe told me that Minnesota Mining was inaugurating a new policy in this area.

"Q. And what was that policy? A. And that was a policy which he told me they had inaugurated in Rochester and it had worked very satisfactorily there.

"Q. What was the policy he stated? A. Basically, an either-or policy.

"Q. What do you mean by that? A. Either you handle our tapes and nobody else's; if you handle anybody else's you can't handle ours.

"Q. What did you tell Mr. Burhoe at that time? A. I explained to Mr. Burhoe that basically the largest volume of our business was being done with Technical Corporation, and on that particular basis we would prefer to remain with the company—or we would prefer to remain with Technical Tape Corporation.

"Q. Did Mr. Burhoe tell you that you could continue to purchase pressure sensitive adhesive tapes from Minnesota Mining & Manufacturing Company? A. Mr. Burhoe told me we could no longer purchase pressure sensitive adhesive tape from Minnesota Mining & Manufacturing Company.

"Q. Did he offer any other explanation or reason other than the one you have stated? A. None.

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[Record p. 2747]

"Q. Have you made any further attempt to purchase pressure sensitive adhesive tapes from Minnesota Mining & Manufacturing Company? A. Yes.

"Q. And what happened? A. Sometime in November, late in November—

Deposition Testimony of A. Trachtenberg, Boston Paper Merchant

"Q. Which November? A. 1953. I placed a call to Minnesota Mining in Newton Center—

"Q. To whom did you speak? A. The operator first. I asked for Mr. Drew. The operator informed me Mr. Drew was not available at that specific time but that she could connect me with his assistant, a Mr. Hill.

"Q. Did you speak to Mr. Hill? A. I spoke to Mr. Hill.

"Q. Did he identify himself? A. He did.

"Q. What did he say and what did you say? A. I asked Mr. Hill if the general policy that Minnesota Mining had instituted some time ago in reference to exclusive selling was still in effect.

"Q. What did Mr. Hill say? A. 'Yes.'

"Q. Did you identify yourself to Mr. Hill? A. Yes.

"Q. Did you tell him you were connected with the Edwards Paper Company? A. Yes.

"Q. Did you tell him that you no longer sold Minnesota Mining & Manufacturing Company tape because you had been cut off? A. Yes.

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Cross-Examination

[Record p. 2755]

Mr. Haight: (Reading)

"Q. What I am getting at, Mr. Trachtenberg, if it will help you, you were not trying to push Minnesota Mining tapes. Your main effort was on tapes of other manufacturers, was it not? A. No.

"Q. The answer to that question was No. You were trying to push Minnesota Mining tape? A. Yes.

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Direct Testimony of C. L. Arnold, a Pawtucket Jobber, called by Technical

[Record pp. 2793-98, 2800-03, 2806-11]

Q. How old are you, Mr. Arnold? A. 42.

Q. Are you in business, sir? A. Yes, sir.

Q. What business are you in? A. I have office supplies and printing.

Q. Will you speak a little louder. A. Office supplies and printing.

Q. Are you in business for yourself, sir? A. Yes, sir.

Q. Under what name do you do business? A. Lloyd's Office Supply.

Q. Where, sir? A. In Pawtucket, Rhode Island.

Q. Is Lloyd's Office Supply a corporation or what form of business is it? A. No, it is solely owned by myself. There is no corporation or anybody involved.

Q. When did you start in business under the name Lloyd's Office Supply? A. In 1949.

Q. In Pawtucket? A. In Pawtucket.

Q. Have you always occupied the same business address in Pawtucket? A. No; I have moved since the original start of the business; I have moved twice, so that this is the third place that I am in now since I have been in business.

Q. Will you describe to the Court the business facilities you have at your present place of business? A. Well, we have about from 7500 feet storage space, plus our offices and showroom.

Q. How many employees do you have? A. Well, let's see. We have five.

Q. What kind of products does Lloyd's Office Supply buy and sell? A. Well, we are considered in the trade as what you might call commercial stationers. In other words, we have, approximately, in the stationery field itself there

are about 18,000 separate items, say, plus furniture and things of that type. In other words, everything that goes in with the line of supplies that commercial accounts would use.

Q. When you buy products do you resell them to customers to consume or use the products themselves, or do you sell to customers for the purpose of resale by them? A. In most cases they consume them. We do have some people who buy them for resale, but that is a minor part of the business.

Q. What type of customers does Lloyd's Office Supply have? A. Well, mills, factories, offices, and things of that type.

Q. Do you sell to any governmental institutions? A. Well, we sell to several States through bids that are let out, plus cities and towns, schools, and things of that type.

Q. Would you please name the States? A. Right now we are selling to the State of Pennsylvania, the State of Rhode Island, and the State of Connecticut.

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Q. Now, does Lloyd's Office Supply now purchase and resell pressure-sensitive adhesive tape of any character? A. Yes, we do.

Q. And have you done so in the past, sir? A. Well, ever since I have been in business I always sold pressure-sensitive tape.

Q. And what kind or what brands of pressure-sensitive cellophane tape did you first start to sell? A. Minnesota Mining or Scotch Brand as it is known in the trade.

Q. And could you describe were they masking tapes, or were they cellophane tapes, or were they cloth tapes, or what? A. Well, it was the general line of tapes which include pressure-sensitive cellophane or masking tapes, and the dispensers which go along with the tape.

Testimony of C. L. Arnold, a Pawtucket Jobber

Q. Now, starting with the first year when you were in business, approximately how much of Minnesota Mining tapes and dispensers—I am speaking generally now—A. Yes.

Q. —did Lloyd's Office Supply buy for resale? A. Well, it was approximately I would say between fifteen hundred, around $1500, in that vicinity. It might have been a little more.

Q. $1500 per year? A. Well, about that, but it could be a litle bit larger later on, but I mean the first year like everything else my volume was not that high, and as I went along, of course, some things increased and some things did not. It varied a little.

Q. Now, let us take 1952, Mr. Arnold. Approximately how much of the Minnesota Mining pressure-sensitive tapes and dispensers did Lloyd's Office Supply buy for resale? A. About $2000.

Q. $2000? A. Yes.

The Court: Is that the purchase price or the selling price?

The Witness: That is the selling price.

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[Record p. 2800]

The Court: Your total purchases from Minnesota Mining during the year 1952 amounted to approximately $2000?

The Witness: That is right, your Honor.

The Court: All right.

By Mr. Spille:

Q. It was then resold at a markup and was included in the $76,000 gross, is that right? A. That is right, yes.

Testimony of C. L. Arnold, a Pawtucket Jobber

Q. Does Lloyd's Office Supply now sell "Tuck" brand pressure-sensitive tape? A. Yes.

Q. When did you first start buying and reselling "Tuck" brand pressure-sensitive tape? A. I believe it was early in 1953, or it might have been the early part of the year, or in the first part of the summer.

Q. 1953? A. Yes.

Q. Is it '52 or '53? A. I guess it was '52 because—that is right, it was '52. It was early in '52.

Q. Do you now purchase and resell Minnesota Mining pressure-sensitive tape? A. No, I don't.

Q. When did you stop buying and reselling Minnesota Mining pressure-sensitive tape? A. At the end of 1953. It was either in September or October. It was late in the year.

Q. Will you please tell the Court the circumstances under which you ceased purchasing Minnesota Mining tape? A. Well, I had been buying and selling Minnesota Mining tape exclusively up until the time I took "Tuck."

And, of course, the reason I did that was because some of my competition was selling "Tuck" and on account of the price structure that Minnesota Mining had I found that I could not compete, so I took the "Tuck" line on along with the Minnesota Mining line, and I carried them both up until I would say it was in the fall, around September, August or October of 1953.

And at that time Mr. Wiggins, who was a salesman, and who called on me for Minnesota Mining, came in and told me that under a new company policy, that since I had been carrying a competitor line of tape that it was their feeling that I would have to either stop selling the "Tuck" tape or they could no longer sell me Minnesota Mining tape.

So I, of course, argued the point because I knew there were certain things that I might lose if I did not have the Scotch Brand Tape.

Testimony of C. L. Arnold, a Pawtucket Jobber

Q. Pardon the interruption, Mr. Arnold, but when did Mr. Wiggins call upon you? A. Well, he called at my office in—like I say, it was either August or September, 1953.

Q. How frequently had Mr. Wiggins called upon you in the past? A. Well, at that time I had moved from—I had a place at Columbus Avenue and I had been in my new quarters for, well, about at least six or eight months.

Q. Yes. A. And prior to that I had not seen him at the old place for six months, so I actually had not seen Mr. Wiggins in almost a year, or pretty close to a year.

Q. Please pardon the interruption, and will you now continue with the conversation between yourself and Mr. Wiggins. A. So I argued the point with him, and I told him I did not think it was fair about not even giving me any kind of a fighting chance, so to speak. And he said, well, he was sorry but he could not do anything about it because it was the company policy. So I said, "Well, I don't know what to say. I hate to lose the business that I know I am going to lose." "Well," he said, "I will give you two or three weeks to think it over and I will stop back."

Q. And what did you thereafter do? A. Well, of course I was—the more I thought about it the madder I got actually, and then within a day or two I called the Minnesota Mining office in Newton, I think it is, it is up near Boston, and I spoke to Mr. Al Drew, who was the sales manager for that area, and I told him what had happened, that I actually could not believe that, I said, and I asked "Is it something that Mr. Wiggins is doing on his own or is it actually company policy?"

He said, "Well, there is nothing I can do about it. He is right. It is the company policy, and that is what we have to do."

So I understood his position, but I just wanted to make sure that Mr. Wiggins was right in his statement.

So when Mr. Wiggins came back, which was two or three weeks later, he asked me if I had decided what I was going to do, and I told him there was nothing else I could do but go along with the Tuck, because while I was losing—while I knew I was losing business by not having Minnesota tape, I thought that I probably would have more to lose on the other side if I did not carry the Tuck line.

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[Record pp. 2806-07]

Q. Had you ever met Mr. Al Drew? A. Yes, I have met Al—Mr. Drew, on several occasions. I think the last time that I met him prior to this conversation I had with him was at the—when Minnesota moved their Boston office to, I think it is, Newton—I am not sure—I know my wife and I went up there; they had an open house and, of course, the invitations were extended to all the jobbers to come up to the open house, so I went up there that night and I did meet Mr. Drew at that time.

Q. This call you refer to, this conversation with Mr. Drew, did you go to Boston personally to see him? A. No, I called him from my office.

Q. Oh, by telephone? A. That's right.

Q. How did you know you were speaking to Mr. Drew? A. Well, they have a switchboard up there and of course you ask the operator; when calls come in the receptionist or telephone operator will ask who you want to speak to, and I had spoken to Mr. Drew over the telephone before, and of course I know I was speaking to Mr. Drew.

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Testimony of C. L. Arnold, a Pawtucket Jobber

Q. After your business relationship with Minnesota Mining ceased, did you buy any other brands of pressure-sensitive tape? A. Yes, I did. After Mr. Wiggins came in and told me that I would not be able to buy anything else from Minnesota, along with the pressure-sensitive tapes, particularly cellophane, there are dispensers that are made expressly for the use of cellophane tape, and since "Tuck" Tape had no line in there—I mean, there was no associationship with the line on dispensers, I was compelled to get them elsewhere. Now the only other place that I could get these machines was through Texcel Tape, which is today Permacel Tape, so I immediately called, I made a contact with them and asked their salesman to call; and at that time I opened an account with them and bought some of their tape and some of their dispensers so that I wouldn't be without them.

Q. Did you continue to sell Texcel Tape? A. Yes, I still sell Texcel Tape.

Q. And "Tuck" Tape too? A. That's right.

Mr. Spille: No further questions.

The Court: Does the dispenser that you bought from Minnesota Mining have any indication on it that it comes from Minnesota Mining?

The Witness: Well, it has a decal or some identification on that says Scotch Brand.

The Court: Would you think that you could, in good faith, sell "Tuck" Tape to be dispensed from a machine which conveys to the public that it is a Minnesota Mining machine?

The Witness: Well, probably to clarify that point, the dispensers that I used are made by several of the packaging companies. I know one of them is Better Packages.

You see, the setup with these companies is that you have to buy so many of these dispensers of any

kind, for any kind of dispensing paper tape, that for the average person to buy them in quantity where they could sell them and make a profit, it is almost impossible. So that the setup that most of the tape companies have, they buy the dispensers from the people who make them and some way or other they identify them so that, although they don't actually make the dispensers, they buy them in quantity and then they resell them to their jobbers or whoever buys the tape from them, and there are several companies that make them.

But you will find, even before "Tuck" Tape came into the picture, that you would walk into an office and you might find a Texcel dispenser with Scotch tape in it, or you might find Scotch tape dispensers with Texcel tape in it. The dispensers are made with two cores. One is a 3-inch core, which is the larger size, and the other is a smaller size which takes what we call the 1296 roll of tape. So that they are interchangeable as far as using the dispensers, and the tapes are all made in the same diameter of roll, and it will take up to a certain width of tape.

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[Record pp. 2816-17]

Q. Whenever, Mr. Arnold, you had a shipment of tape which the manufacturer of the tape, whoever it was, delivered directly to the customer and characterized as a drop shipment, who first bought the tape? Did you or the customer buy it from the manufacturer? A. Well, the customer bought it from me, and then I bought it from the manufacturer.

Q. And who paid who? A. Well, the customer had to pay me, and then I had to pay the manufacturer, because that was one of the risks involved. It was up to me to pay them.

Testimony of C. L. Arnold, a Pawtucket Jobber

The Court: The customer can't give you credit you mean?

The Witness: That is right. If I didn't get paid off the customer to whom I sold it to, you see, I would still have to pay the tape company.

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Cross-Examination

[Record pp. 2823-25]

Q. When 3M struck you off as a distributor, did you lose a single customer other than Glasscraft? A. Yes.

Q. When you testified in Boston, and I will now refer you to page 28 of that same exhibit— A. Page 28?

Q. Yes, the first question on the page, and I will read it:

"Q. After Minnesota Mining & Manufacturing Company some time in August or September 1953 refused to sell you any more pressure-sensitive tape unless you carried their line exclusively, did you lose any customer other than the one you mentioned, Glasscraft? A. In so far as I know, I didn't."

Was that true? A. Well, that is true, and I didn't know it at the time that I gave this testimony.

Q. Well, now, what have you learned since? A. I have learned since that one company that was buying tape from me when I told them that I couldn't sell them Scotch Brand Tape any more, at that time told me that it didn't make any difference, but then I didn't get an order from them after that.

Then as time went on I can tell you that I questioned this man, and I asked him what the trouble was, what happened, that I wasn't getting an order.

Now, this is after—this is not too long ago either, as a matter of fact, and he told me that they—not that he had any direct word about it, but people that used it, or somebody in the place insisted on Scotch Brand Tape.

Now, when I gave that testimony, or when I said that in so far as I know I didn't lose any customers, I didn't know, and I assure you I didn't know because you can't go to customers and ask them about every item that they are buying.

Now, if somebody was using a particular tape, a particular brand of tape, and you could not supply it, they didn't always say, "Well, we will take a substitute." You just didn't hear any more about it.

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Direct Testimony of Mrs. C. L. Arnold, called by Technical

[Record pp. 2858-59, 2866-70]

Q. I am going to ask you, first, if you will get out of your natural sweet voice and see if you can't talk to that mythical person that is right up against that back wall back there. A. Yes, sir.

Q. Mrs. Arnold, what is your full name? A. Elizabeth Arnold.

Q. For whom do you work? A. For my husband, Mr. Arnold.

Q. And what is the name of the company? A. Lloyd's Office Supply.

Q. How long have you worked for that company? A. Three years.

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[Record pp. 2866-2870]

Q. Now you heard your husband testify about a visit by Mr. Wiggins of Minnesota Mining. I think it was in August 1953. Were you there at the time Mr. Wiggins visited the plant, in your office I would say, in 1953? A. Yes.

Q. And were you in the same room? A. Yes, I was.

Q. With you husband and Mr. Wiggins? A. Yes. When Mr. Wiggins first came in, I don't believe I had met him before; you see, I see most of the salesmen even before Lloyd does; and I don't recall ever having seen him before, so I didn't know who he was, but he said he was from Minnesota Mining.

So they went in the back room first, and then Lloyd was a little upset, and they came back and they repeated the conversation to me.

Q. Now what did your husband say and what did Mr. Wiggins say when the conversation was repeated? A. Well, at first it started about this Glasscraft incident because, naturally, that was quite an item, and we were having trouble with it. And he said that unless we dispensed with every other tape, they couldn't sell, Minnesota Mining, they would shut us off. And, well, I said that I thought they were being dictators, and he didn't like that; but he said he had no explanation for it, and he didn't try to explain it.

Q. I beg your pardon? A. He didn't try to explain it.

Q. And what other kind of tape were you buying at that time other than "Tuck" tape and Minnesota Mining tape? A. I don't think we had any other at that time. We hadn't taken on Texcel, Permacel.

Q. Later you did take on Texcel? A. Yes, we had to, because of the dispensers.

Q. That is, you had to get dispensers from them? A. Yes.

Q. Now at a later time or, let us say, at that time, at the time of that conference in August 1953, what kind of tapes were you buying from Minnesota Mining? A. Well, the cellophanes and the masking tape. I don't know the technical terms. If a customer called and said they want masking tape I know what it looks like and it says masking tape on the box, and that is what they get; or on the cellophane, I know the size and the lengths.

Q. Masking tape is a paper tape, isn't it? A. Yes, it is a sort of odd-looking—

Q. Does that look like masking tape you are talking about? A. Yes.

Mr. Morris: The witness has been shown Exhibit 93.

Q. And did Mr. Wiggins at that time, in August 1953, when this conference was being had, did he say whether or not your company would be shut off from buying masking tape as well as cellophane tape? A. He didn't specify anything. He just said Minnesota Mining would no longer supply us with anything. I mean, there was no stipulation as to what item.

Q. And at that time you were also buying dispensers from Minnesota Mining? A. Yes.

Q. Now, after that conference, that personal conference, did you make a call to Mr. Albert S. Drew? A. Yes.

Q. Did you personally put in the call? A. Yes, I place all the calls.

Q. Where did you call him? A. In Newton, Massachusetts. And I told the operator who I wanted and that Mr. Arnold was calling, and she put him on, and then Mr. Arnold took over.

Q. When you say the operator, you mean the operator in Mr. Drew's office? A. That is right. Well, they have a switchboard.

Q. And how did you know it was Mr. Drew? A. Well, personally I wouldn't know it was Mr. Drew, except that he answered the name Mr. Drew.

Q. When you said, "Is this Mr. Drew?" he said "Yes"? A. That is right.

Testimony of Mrs. C. L. Arnold

Q. Did you hear the end of the telephone conference that took place between your husband and Mr. Drew, that is the end— A. I heard Mr. Arnold's conversation, yes.

Q. That is what I mean. You heard him testify here in court about that? A. Yes, sir.

Q. Is your recollection the same or different in respect to what Mr. Arnold said? A. Well, I would say it was about the same. I couldn't remember the conversation verbatim, I hear so many of them; but I do know that he was quite perturbed when Mr. Drew said that that was a definite policy, and he said he didn't believe it. And, of course, when he hung up that was our topic of conversation, that was the important part.

Q. That is, he told you that is what Mr. Drew had said? A. That is right.

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Direct Deposition Testimony of Samuel Rosendorf, Virginia Jobber, called by Technical

[Record pp. 2946-54]

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"Q. Will you please state your name? A. Samuel S. Rosendorf, Jr.

"Q. Where do you reside? A. My street adress is—

"Q. Your residence address. A. 7110 University Drive, Richmond, Virginia.

"Q. What is your age? A. 45.

"Q. What is your business? A. I am a partner in the Southern Stamp and Stationery Company, Richmond, Virginia.

Testimony of Samuel Rosendorf, Virginia Jobber

"Q. What is the business of Southern Stamp and Stationery Company? A. Well, we sell a general line of all stationery supplies, office furniture and equipment. We operate a printing plant, and also manufacture rubber stamps.

"Q. Among the items you sell do you also sell tapes of any kind? A. Yes, we sell all types of tapes.

"Q. For how many years have you been selling tapes? A. For many, many years we have sold just the ordinary gum sealing tape. We started to sell cellophane tape and related products in the middle '30s.

"Q. Whose product did you start selling in the middle '30s? A. We took the line of Minnesota Mining and Manufacturing Company.

"Q. Did you sell Minnesota Mining and Manufacturing Company's cellophane tape? A. We sold both their cellophane, drafting and masking.

"Q. Going back to the time— A. Also we sold some electrical tape.

"Q. Going back to your company, the Southern Stamp and Stationery Company: What is the standing of that company insofar as the office supply business is concerned in the City of Richmond? A. I would say that we are one of the largest suppliers of stationery supplies. I am not saying we do the largest business, but in stationery supplies we are probably second or third in the city in volume. In the supply end.

"Q. How long has your company been in business? A. My father started the business in the late 1890's. I don't remember the exact year.

"Q. As I understand your testimony you started handling the Minnesota line of pressure-sensitive adhesive tape in the middle thirties? A. I don't know the exact year, but I would say in the middle thirties.

"Q. What has been your average purchases of Minnesota Mining and Manufacturing Company products from

1942 through 1952? A. I would say that we would average from three to four thousand dollars a year. I would imagine so. I have never checked it actually, but I think it would run approximately that amount.

"Q. What happened in 1953 as far as your sale of Minnesota Mining and Manufacturing Company tapes are concerned? A. Our sales jumped for the year of 1953, we purchased approximately twenty-five thousand dollars worth of all kinds of tapes from Minnesota Mining.

"Q. What was your status as far as Minnesota Mining and Manufacturing Company is concerned, were you a jobber, or distributor of their products? A. Well, whether we were a jobber or a distributor is a question I couldn't say. I mean, there is a fine point between the two. I just do not know which we were, frankly.

"Q. Do you also sell other brands of pressure-sensitive adhesive tapes, Mr. Rosendorf? A. Well, for some years off and on we have bought some types of tape from the Industrial Tape Corporation, which is now Permacel Tape.

"In the fall of 1952 we heard of Technical Tape Corporation, and we started an account with them buying some of their tapes.

"Q. What kind of tapes did you buy from Technical Tape Corporation? A. Well, in the beginning we bought cellophane tape, and eventually placed more orders, branched out into masking, drafting, electrical and other types of tape that we sell that they manufacture. Also cloth tapes, which is manufactured by Technical Tape.

"Q. Do you know the brand name that Technical Tape Corporation uses to identify its tapes? A. Tuck Tape.

"Q. Do you still sell the products of Technical Tape Corporation? A. Yes.

"Q. After you began selling Technical Tape Corporation tape, did you continue to sell the Minnesota Mining and Manufacturing Company tapes? A. We sell tapes of

Minnesota Mining and Manufacturing Company, did until December of 1953.

"Q. You bought your tapes from Minnesota Mining until that time? A. Certain types of tape from Minnesota. We bought certain types of tapes from Industrial Tape Corporation. And certain tapes from Technical Tape. However, we were cut off by the Minnesota Mining and Manufacturing Company in December of 1953.

"Q. Before you were cut off in December of 1953, did any representative of Minnesota Mining and Manufacturing Company call on you to discuss that matter or talk to you about your orders to Minnesota Mining and Manufacturing Company? A. Yes. On November 24, 1953, Mr. Holloran and Mr. Ralston, representing the Industrial and Stationery Division of Minnesota Mining Company paid me a visit, at which time Mr. Holloran told me he didn't like to see other makes of tape being used in dispensers furnished by Minnesota Mining and Manufacturing Company.

"He also made the statement in his visit that he would recommend to his superiors that we be not allowed to sell any further tape of the Minnesota Mining Company, but that he himself could not do so. He further stated that he would recommend that our orders be slowed up.

"Q. What did you understand was meant by the words 'slowed up?' A. That is what has puzzled me, because I cannot see how any company could slow orders up. But those were the words that he used.

"Q. Did he give you to understand the reason why he was making that recommendation to his superiors? A. Mr. Holloran stated the fact that he didn't like to see other makes of tape being used in dispensers that he had furnished.

"Q. What other makes of tape did you understand him to refer to? A. I can answer that question, I believe. Mr.

Holloran went into the plant of Reynolds Metals Company in Richmond and looked around and saw what type of tape was being used there.

"Now the funny thing is that we didn't replace tape being used in the Reynolds Metals Company of Minnesota. We replaced tape that was being bought by Reynolds Metals Company from the Industrial Tape Corporation.

"Q. When you replaced that tape, with what brand of tape was it replaced? A. We replaced it with Technical, with Technical tape, or Tuck Tape. However, at various times our customer ordered tape manufactured by Industrial Tape.

"Q. After your meeting with Mr. Holloran and Mr. Ralston in November of 1953, did you have another meeting with representatives of Minnesota Mining and Manufacturing Company? A. Yes, on December 8 I was paid a visit by Mr. Steinbreker, and Mr. List.

"Q. Was that December 8, 1953? A. Yes, sir. December 8, 1953.

"Q. Will you tell us the substance of the conversation? A. The sum and substance, what they could not understand, was why we were continuing to send purchase orders in, that they thought that I understood from the visit of Mr. Holloran that they would no longer accept orders.

"In questioning Mr. Ralston he admitted that Mr. Holloran didn't say he cut us off, but that he would recommend his superiors that we be cut off, which we had never received any communication at all on until this time.

"Mr. Steinbreker told us that they were changing their methods of distribution, and they could see no future in their plans for us.

"I brought out the point of the amount of sales that we had given Minnesota that year, and it is my belief that if they were shortening their lines of distribution then why would they pick us, who I believe were their largest

account among the stationers in the City of Richmond, rather than a small account which may have bought only several hundred dollars worth a year.

"We asked Mr. Steinbreker and Mr. List if we had always discounted our bills by the 10th of each month, they agreed that we had.

"We also asked them if we had upheld our price structure, which they agreed that we had. And they would give us no expression, no express reason, that they were cutting us off except that it was implied that, in that conversation, we were handling another line of tape, because they specifically mentioned that the orders they were returning to me we could get from the other fellow, is the exact words that they use.

* * *

[Record pp. 2962-63]

"Q. What were your average purchases for stock purposes during 1952, by months, now? A. I couldn't answer that question. We purchased approximately I would say 3 thousand dollars, which would be roughly speaking $25.00 [$250.00] a month, would it not?"

Then page 26:

Cross-Examination

"Q. You have testified on direct examination that you didn't replace Minnesota Mining tape with other tapes for Reynolds? Is that correct? A. No, I think that is something wrong there. I will answer it this way: We have a contract with Reynolds to supply them with tape. We have given them various price lists, or copies of prices we can sell them the different makes of tape at, which there is one other line which has never been mentiond here, which make not cellophane tape but certain types of paper tapes, and when we would receive an order from Reynolds for Minnesota Mining tape we have tried to give them the type

of tape that they have always asked for in their purchases. If they have asked for Permacel tape, Textel tape, we have given them Textel. Whenever they have asked for Tuck tape, we have furnished whatever their purchase orders have called for."

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Direct Deposition Testimony of Allen B. Commack, North Carolina Stationer, called by Technical

[Record p. 2965]

"Q. Will you please state your name. A. Allen B. Cammack.

"Q. Where do you reside, Mr. Cammack? A. Burlington, North Carolina.

"Q. And what is your age, Mr. Cammack? A. 55.

"Q. What is your business? A. I operate a stationery and office equipment store in Burlington, North Carolina.

"Q. And do you do business under some name? A. We are known as Cammack Office Supply.

"Q. Is that located at 521 West Front Street in Burlington, North Carolina? A. Yes, it is.

"Q. How long have you operated that business? A. I began in November of 1944 with a partner and I succeeded the partnership and have been operating it continuously since that day in November, 1944.

"Q. What products do you sell? A. Well, we sell the usual stationery and office equipment line, record-keeping books and sheets, chairs, tables, desks, stationery.

"Q. Do you sell tapes—for instance, adhesive tapes? A. Yes, we sell acetate tapes, tapes that you use in fastening boxes and packages.

"Q. For how many years have you been selling such tapes? A. Since 1944 and early 1945.

"Q. Whose tapes did you first begin to sell in your store? A. Well, we sold Minnesota Mining and Manufac-

turing Company's cellophane tapes. We sold some of their drafting tapes and masking tapes in the small rolls and later they put a little electric tape on the market in small rolls and we sold that and we sold Industrial Tape products known as Texcel.

"Q. Now how many years did you sell Minnesota Mining and Manufacturing Company? A. Either when we opened in November of 1944 or early 1945 when we carried a stock continuously up to October of 1953.

"Q. Well, now did you handle Minnesota Mining and Manufacturing tapes exclusively for any period of time, do you remember? A. Well, yes. A man by the name of Davis came in and we were supposed to be handling Minnesota Mining, and the other stationery business across town had the Texcel line, that was probably 1946 or 1947.

"Q. And then what happened? A. They changed their field man, I don't remember his name. He called on us and continued to sell us Minnesota Mining tapes but he also called on the other stationery men in town and sold them the Minnesota Mining products.

"Q. Then what did you do? A. Well, I continued to buy Minnesota Mining from him and I bought some Texcel.

"Q. And you handled both lines? A. I handled both lines from time to time but the majority of my stock was Minnesota Mining.

"Q. Did you handle masking tape, etc.? A. Most of the tapes in the sizes that is offered and sold through a stationery store: 1296 inch lengths, and so on and lines of various widths.

"Q. Now you mentioned 1953. What happened in 1953? A. Well, I was called upon by another new man by the name of Gensure and Bill Price, William Price, who had been the man that Gensure replaced. They came to my store.

"Q. Who are those people? A. They represented Minnesota Mining because they both had appraised and serv-

iced our account for better than a year and Gensure had taken his place sometime after April of 1953. They came to the store on a sales visit, saw the products of Technical Tape Corporation on our shelves, that tape is known as Tuck tape. They asked me if I was going to handle it, I said, 'Yes, I am. I have bought it and I am going to sell it.' They wanted to know if I realized the suit pending in which the Minnesota Mining Manufacturing Company was suing the Technical Tape Corporation for patent infringements; that I as a dealer handling the products of this company, they called it Tuck tape, would be made a party to the suit and would be made liable for a percentage of damages if such were assessed. I told him I didn't know anything about any such suit pending.

"Q. When was that meeting, do you remember? A. Approximately—as near as I can recall it was in October of 1953. It was sometime in the fall or it may have been later than that.

"Q. Who was present at that meeting besides Mr. Price and Mr. Gensure and yourself? A. My son, Allen B. Cammack, Jr., was in the room at the time and was with us when this conversation took place, part of it. They were there quite a while. They stayed with us some twenty or thirty or forty minutes as was their custom, they usually visited with the salesmen and talked to them. The relationship was friendly between us.

"Q. Now after that meeting that you mentioned in October of 1953 did Mr. Gensure call on you again? A. The next time I saw him to remember it was sometime in January or February of 1954. He came to see me.

"Q. What happened then? A. Well, Jim is a pleasant individual and he came in and went through the usual formalities and I asked him what he wanted. I said, 'If you are in here looking for business, the last time you

were in here you said you were going to sue me. If you are going to sue me I don't want to do any business with you. If you are not I will buy some of your tape and dispensers.'

"Jim smiled and laughed and said why sure he wanted an order. He went out in our display room and began checking our stock and made out a list that I was short of. I finally said, 'Jim, I will buy what I want. I need some dispensers and I need some of the 15-cent or 25-cent sizes of Scotch tape that comes packed a dozen to a package and you buy six or twelve of them and get the maximum discount. I gave him this order and he left and came back the next day, came in and said he had bad news.

"I made some comment like this, 'Well, maybe it isn't so bad.'

"He said, 'We have had a meeting about you.' He mentioned something about district men which I don't remember, the names of the district men, and he said, 'We have had a meeting about you and we have called St. Paul, Minnesota,' and wanted to know if I had received a telephone call from St. Paul, Minnesota, anybody with the Minnesota Mining Manufacturing Company. I told him I hadn't. He said, 'Well, we can't sell you,' and gave me my order back.

"Q. Well, has Minnesota Mining and Manufacturing Company sold you any tape of any kind since then? A. Nope.

"Q. What were the relations between your company and Minnesota Mining and Manufacturing Company from the time you started selling its products until you began to handle and sell the products of Technical Tape Corporation? A. They were good. Their man came to our store, sometimes our salesman made calls with them (which was part of their procedure in North Carolina to go out and call on accounts and talk about the tape and leave samples and we were selling to textile mills and some of these mills

buy a sizable quantity from us, 500 or more rolls at one time, and some of them buy higher than that).

"Q. And what happened as far as your relations with Minnesota Mining and Manufacturing are concerned after you took on the sales of Technical Tape Corporation? A. Well, they broke off after this October when they came in this October and said they were going to sue me. I told them that I certainly wasn't going to do business with a person who was threatening with a suit, I told Mr. Gensure.

"Q. Approximately what have your purchases averaged during the period that you were handling Minnesota Mining and Manufacturing tapes? A. Well, we started buying back in those days with the war on we would buy 36 rolls and get a maximum discount or we would buy more. We were paying them $50 or $60 or $100 a month at a time or $1000 a year, that was the order the last of 1950, 1951, 1952.

"Q. What about the prices at which you sold the tapes that you bought from Minnesota Mining and Manufacturing Company? A. Well, they had a published price list that gave the prices for one roll, prices for the next break on some things was a dozen and on other sizes was 36, I believe. We took the discount, the company always got their money, full price.

"Q. Do you mean you paid promptly? A. We paid promptly, yes. I noticed Industrial Tape, which we call Texcel, and the Minnesota Mining prices always were identical for the same sizes and lengths and also changed at exactly the same time and had the same dates on them for a period of years until I ceased to do business with them. We had to buy it in the quantities they set. We got the maximum discounts, first it was 36 rolls and then they moved it to 72 rolls and you didn't get your maximum discount unless you bought 72 rolls or its equivalent, according to widths."

Excerpt from Cammack Cross-Examination

Then he says he is on the staff of the National Stationery and Office Equipment Association. I think he is on the committee of that now. He used to be on it.

That is all of the direct. I will skip through this here and see if I have marked anything in the cross. Yes, I have.

He says he has two outside salesmen. That is on page 71. And he is asked on page 72, line 7:

"Q. Did you ever instruct your salesmen to tell the customer that Tuck brand tape was just as good as Minnesota Mining cellophane tape. A. We instructed them to tell the customer that Tuck tape would do the job and that is the way they have been selling it.

"Q. Then to that extent you did give them instructions to mention Technical Tape? A. Just like they mentioned Scotch tape and Texcel tape."

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Excerpt from Cammack Cross-Examination
Technical Exhibit 144

[pp. 69-71]

• • •

Q. It is a fact that, at the time of this last visit the only brands of cellophane tape on display in your store were Tuck tapes and Texcel? A. No, that isn't a fact.

Q. I am not talking about dispensing equipment now, just tapes. A. No, we had Minnesota brand in there and we had some Texcel in there and we had some Tuck in there. In fact, we still have got some of it in there.

Q. In October of 1953 what would you say that your stock of Minnesota Mining and Manufacturing tape was? A. I don't know.

Q. Was it small or large? A. I know I was out of the fifteen and twenty-five cent rolls and in February I ordered some at that time and I had a nice amount of the Scotch Christmas tape on hand and I still have some of it on hand today that didn't sell during the December sales.

Testimony of R. V. Arvey, Chicago Distributor

Q. Excluding the Christmas tapes, what would your estimate be of how much Minnesota Mining tape you had in stock as of October, 1953? A. I don't keep that type of inventory, I just go out and look at it and if it is getting low I reorder.

Q. You don't keep a good running inventory? A. Just a look type.

Q. How often do you check that. A. At various intervals.

Q. Do you have outside salesmen in your establishment? A. Two.

Q. Did you ever instruct them to aggressively push Tuck tape? A. No.

Q. Do you mean from 1945 to 1953? A. From October, 1953 or sometime shortly before that until February of 1954, as long as we had Tuck tape we sold it and used the same amount of effort; on it as Scotch tape, we pushed everything.

• • •

Direct Deposition Testimony of R. V. Arvey, Chicago Distributor, called by Technical

[Record pp. 2661-69]

"Q. Can we have your full name and address, Mr. Arvey? A. Reuben V. Arvey, 200 East Chestnut Street.

"Q. That is in Chicago? A. Chicago.

"Q. In what business are you engaged? A. Office supply, office furniture.

"Q. With what company are you? A. Crown Office Supply Company.

"Q. And that is located at what address? A. 218 South Wabash Avenue, Chicago.

"Q. Is that a corporation or what? A. Illinois corporation.

"Q. Do you hold any office in that corporation? A. I am president of the firm.

Testimony of R. V. Arvey, Chicago Distributor

"Q. It has been testified that your company sells tapes of various kinds. Is that correct? A. That is right."

"Q. It has been further testified that your company sold transparent cellophane tape purchased from Minnesota Mining & Manufacturing Company since the early 1930's. Is that your recollection? A. Well, when they started in business, I think we were one of their first accounts.

"Q. And you began the sale of masking tape and possibly other tapes purchased from Minnesota Mining sometime in the late 1930's. Is that correct? A. I believe so.

"Q. Do you now purchase any tapes of either the transparent type or of the opaque masking type from Minnesota Mining? A. Not direct from Minnesota Mining, no, sir.

"Q. When did your purchases from Minnesota Mining cease? A. When did it cease?

"Q. Yes. A. December of 1952.

"Q. Can you tell us the circumstances surrounding this cessation of purchases from Minnesota Mining? A. In the early part of December, if I remember rightly, December 5th, the salesman that had always called on us came in—his name was Cleary.

"Q. C-l-e-a-r-y? A. I believe so, Robert Cleary—

"(Continuing)—came in with the sales manger of the cellophane division and brought me one of our mailing pieces, which I see on the table there."

• • •

Then the answer continues:

"A. Which he told me they had picked up from some office at 1500 South Western, which happened to be, I know it is Minnesota Mining warehouse building. I don't know—there must be dozens of firms in that building. He told me about how their business fell off with us in the two months previous—how fine it was up to that point, and how unhappy they were that we were handling Technical Tape

merchandise, and before they got through, told me in no uncertain words that we had our choice of buying Minnesota Mining or Technical Tape.

"Q. Who is this other person who came with Mr. Cleary? Do you remember his name? A. I think it was Lowe, if I remember correctly. It was the first time I met the gentleman.

"Q. Then this conversation between you and Mr. Cleary and Mr. Lowe took place around December 5, 1952. Is that correct? A. That is right.

"Q. Can you tell us as close as you can remember the conversation that took place between yourself and Messrs. Cleary and Lowe, and tell us as accurately as you can what you said and what they said. A. Well, when they told us we couldn't buy—we had our choice of Minnesota Mining themselves, of course, I went and told them our relationship with Minnesota Mining, that I didn't think they had the legal right or the moral right or any right to refuse to sell us; that we had always paid our bills, we had a reputation of never losing a discount, and of course they agreed with that.

"They felt that selling Technical Tape was cutting into their business.

"I told them the Technical Tape proposition, that as a dealer in thousands of different items, we were looking for a profit, and Technical Tape showed us a greater profit than we did on Minnesota. We effected a saving to the consumer, that our salesmen were enthused about selling it, we had very few complaints, and that we would refuse to give up Technical Tape under those conditions.

"Q. Did Mr. Lowe and Mr. Cleary take part in the conversation? A. Yes, sir.

"Q. Can you tell us the words that they employed in communicating the information that you have just testified about? How did they express themselves? A. I don't

know how I can put it any clearer, when they told me we have our choice of selling Technical tape or selling Minnesota Mining.

Q. They put it in just those words? A. That is right. There was no question about it, the language that they used—we had a choice.

"Q. Well, he addressed you, of course, as he spoke to you? A. He addressed me. I have never had any dealings —I have seen Mr. Cleary in our office time and time again. I have been more or less taking it easy. I had a heart condition in 1947. I have been working short hours.

"I have been coming down at nine-thirty, going home at four o'clock. I have done none of the buying. I have taken care of certain accounts.

"I have taken care of and helped make decisions of the firm, but I haven't knocked myself out in the conduct of the business.

"They came to me knowing that I was the president of the firm. That is the only way I could figure that.

"Q. Had you invited them to see you, or did they come of their own? A. No, sir. They came of their own accord.

"Q. Did anybody else take part in that discussion besides you and the two representatives of Minnesota Mining? A. Not at the present time, and when they finally got to the end of the conversation and were ready to leave, I called in Mr. Ackerman, who is vice-president of the firm and has charge of our salesmen, has charge of the purchasing, and I had them repeat to him exactly what they told me.

"Q. Did you yourself repeat to Mr. Ackerman the sum and substance of your conversation? A. Yes, I repeated it to him and they didn't deny it. I think they gave him the same story they gave me.

"Q. Then you say that you repeated to Mr. Ackerman the sum and substance—A. I told him what had happened.

Testimony of R. V. Arvey, Chicago Distributor

"Q. Let me finish my question and then you can answer. A. O.K.

"Q. Then you repeated to Mr. Ackerman, in the presence of Messrs. Lowe and Cleary, the substance of your previous conversation with them? A. That is right.

"Q. And they did not deny it, as you just testified? A. That is right.

"Q. Now, what happened after Mr. Ackerman joined the three of you? A. Well, after we got through with the conversation, they were ready to leave, and I went into the elevator with them. We are on the fifth floor, and we have a store on the first floor, and as we got out of the elevator, I was going into the store and I asked them if that was final, and they said, 'Well, we will have to take it up with our home office and we will let you know.'"

"Q. Did they let you know? A. The following Thursday they came back and told me—both Mr. Cleary and Mr. Lowe were back and they told me they were to the factory and the decision they had made the previous Friday was final and we could no longer buy any merchandise from them.

"Q. What was the reason they gave for that decision? A. That we had refused to dump Technical Tape.

"Q. You mentioned they came back the following Thursday. How long was that after your original conversation with them? A. Well, Friday to Thursday is one day less than a week. Six days.

"Q. Have you purchased any products from Minnesota Mining since December of 1952? A. No, sir.

"Q. Have you made any attempts to make such purchases? A. We have."

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Direct Deposition Testimony of Eli Ackerman, Chicago Distributor, called by Technical

[Record pp. 2697-2705, 2711-12, 2717]

"Q. Will you please give us your full name and address. A. Eli Ackerman. Do you want my business address, or—

"Q. Your home address. A. 5619 North Spaulding Avenue, Chicago, Illinois.

"Q. What is the nature of your business? A. We are in the office equipment, furniture and supply business.

"Q. When you say 'we' whom are you referring to? A. Crown Office Supply Company."

* * * *

"Q. Will you tell us more specifically in what type of goods Crown Office Supply Company deals in? A. Well, primarily we are an office supply and stationery house. By that I mean we sell everything used in an office from a pin to a desk, which covers approximately twenty to thirty thousand various commodities.

"Q. Are you in the business of selling tape? A. Yes, sure.

"Q What kind of tape? A. Well, we sell all sorts of tape. We sell gum tapes, cellophane tapes, masking tapes, drafting tapes, and et cetera.

"If you want me to enumerate them, I will keep on going.

"Q. That will be all.

"What have been your sources of supply for all these tapes?

"I shall precede that question first with another question: When did you first begin selling the cellophane tapes and masking tapes that you referred to? A. Well, cellophane tape we first started selling, I believe in—if my memory serves me correctly—back in the early thirties when the Minnesota Mining Company introduced 'Scotch' tape

Testimony of Eli Ackerman

"Q. You are referring now to the transparent cellophane backed tape? A. That is right, but I believe Dennison's have—well, no. Theirs is a glassine tape, a mending tape. Well, we started selling it when we started in business in 1927.

"Q. Well, this cellophane tape you referred to, that has a pressure sensitive adhesive on it so that it can be made to adhere by simple pressure? A. Right.

"Q. Do you understand what I mean by 'pressure sensitive adhesive? A. Yes, I do.

"Q. Now, can you recall approximately in what year early in the thirties you first began selling cellophane tape? A. Well, it was a long time. Let's see—I imagine it might have been in 1932 or 1933, somewhere in there. It might be the latter part of 1932 or the early part of 1933.

"Q. Oh, about twenty years ago? A. Oh, yes, it was a good twenty years.

"Q. Do you recall when you first began selling masking tape? A. Masking tape, this would be possibly the late thirties, I imagine around 1939 or 1940, somewheres around there.

"Q. Do you know which type of tape first appeared on the market, the cellophane tape or the masking tape? A. Well, I would say cellophane was brought to my attention before masking or drafting tape was as an office supply item or stationery's items for resale purposes.

"Q. Then you are quite certain you sold cellophane tape before you sold masking tape? A. Yes.

"Q. What was the source of your supply of cellophane tape and masking tape when you first sold those items? A. One source.

"Q. What was that? A. Minnesota Mining Company.

"Q. Is that the Minnesota Mining & Manufacturing Company; is that their full name? A. Yes.

"Q. Are you presently selling cellophane tape or masking tape purchased from Minnesota Mining & Manufacturing Company? A. Are we presently selling it?

"Q. Well, I will change my question. Are you now purchasing cellophane or masking tape from Minnesota Mining? A. No, sir.

"Q. When did you stop purchasing from that company? A. December of 1952.

"Q. Does that apply both to the cellophane and the masking tape? A. The complete line.

'Q. You mean you purchase other types of tape from them? A. Yes, sir, whatever types were available for distributors in our respective field.

"Q. You mean you handled the whole line of tapes for Minnesota Mining? A. The complete distributors' line.

"Q. And you were a distributor? A. Yes, sir.

"Q. Now were your purchases from Minnesota Mining regular and continuous from the time that you first began to purchase the respective tapes? A. Very definitely.

"Q. Can you give us an idea of approximately the total value of the tapes that you purchased from Minnesota Mining, say—"

"Q. Say, in the years 1950, 1951. A. I would say approximately between thirty to forty thousand dollars per year.

"Q. You were billed by Minnesota Mining in that amount? A. Yes, sir.

"Q. You have reference to the value of all the goods you purchased from Minnesota Mining? A. Correct.

"Q. Can you give us an idea as to the value of the cellophane and masking tapes that you purchased in 1950 and 1951 from Minnesota Mining? A. Well, that would be aproximately 95 and 97 percent of our purchases."

"Q. Who does the buying for your company? A. I do.

"Q. Were you responsible for the purchase of all the goods from Minnesota Mining? A. Yes, sir."

"Q. You stated that around December, 1952, you ceased purchasing tapes and I think you said also other goods from Minnesota Mining. A. That's right.

"Q. Can you tell us why those purchases ceased at that time? A. Why they ceased?

"Q. Yes. A. Well—

And then he continues his answer:

"A. About sixty days prior to the date of ceasing our relationship with Minnesota Mining Company—our business relationship, I should say—we had sent out or circularized our prospective customer list wherein in the circular we incorporated 'Tuck' cellophane tape.

"Q. That is the tape being sold by—A. Technical Tape Company. About the early part of December, we were called on by Mr. Cleary, who was the salesman of Minnesota Mining, and a Mr. Lowe, I believe, who was either the district sales manager or Chicago sales manager. I forget what his correct title is. He had spoken to one of my associates, Mr. Arvey, Mr. R. W. Arvey.

"Later I was asked to go into his office and listen to the conversation he was having with Mr. Lowe.

"Q. Was Mr. Cleary present at that time? A. Yes, sir. Mr. Lowe told us that if we were to continue selling 'Tuck' tape, Minnesota Mining Company would cut us off and not sell us any more.

"Q. Now whom did Mr. Cleary represent? A. Mr. Cleary?

"Q. Yes. A. He represented Minnesota Mining Company.

"Q. And Mr. Lowe? A. Minnesota Mining Company.

"Q. Did you know these gentlemen before that conversation? A. Yes, sir.

"Q. And you knew that they represented Minnesota Mining? A. Right.

"Q. Now did they specify what goods they would refuse to sell you if you continued selling 'Tuck' tape? A. The entire line we had been buying from them.

"Q. Who was it that made that statement with respect to not selling you? A. Mr. Arvey told me that when I walked into his office—that he was told by Mr. Lowe that if we were to continue selling 'Tuck' tape, that the Minnesota Mining Company would cut us off their books.

"Q. In whose presence was that statement made to you? A. Mr. Arvey, Mr. Lowe and Mr. Cleary.

"Q. Was that statement made in the hearing of Mr. Lowe and Mr. Cleary? A. Right.

"Q. Did Mr. Lowe in any way show any disagreement with that statement? A. None whatsoever.

"Q. Did Mr. Cleary say anything in contradiction of that statement of Mr. Arvey? A Nothing whatsoever."

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Cross-Examination

[Record p. 2711]

"Q. What kind of pressure-sensitive adhesive tapes did you sell that you had purchased from Minnesota Mining & Manufacturing Company? A. Well, we bought their line that was available to distributors.

"Q. That is what I am trying to get at. What are they? A masking tape was one? A. Well, their 600 line, which is pressure-sensitive cellophane tape; their 230 line and 201 line, which is masking tape and drafting tape, and their display units; their 100 and 200 series; their 800 line, I believe, is the acetate line, if my memory serves me correctly.

"If I had their catalog sheet here, I would be able to give you more detail."

• • •

"Q. But suppose a customer came and asked for a 'Scotch' brand tape—A. Who insisted on it?

"Q. Yes. A. We gave him 'Scotch' brand.

"Q. You made no susbtitutions? A That is right."

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Cross-Examination Deposition Testimony of Eli Ackerman, Chicago Distributor, called by Technical
Technical Exhibit 142

[p. 77]

Q. Did the Minnesota Mining men ask you at that time to continue selling their line of tapes? A. At this conversation or conference?

Q. Yes. A. That we should continue selling Minnesota Mining? Well, like I say, Mr. Hobbs, [Minnesota counsel] at the conversation, they told us specifically that if we were to continue selling the "Tuck" line of tapes that Minnesota Mining Company would cut us off.

Now, from there on in, you can take it for what it is worth.

Q. You can draw your own conclusions, that is what you mean? A. Yes.

Q. But the Minnesota Mining people wanted you to continue selling their tape instead of the "Tuck" tape, did they not? A. Oh, sure. After all we were still a customer of yours.

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Direct Deposition Testimony of Paul Christensen, Denver Distributor, called by Technical
Technical Exhibit 143

Direct examination by Mr. Kipnis:

Q. Will you please state your name? A. Paul J. Christensen.

Q. How old are you, Mr. Christensen? A. 42.

Q. Where do you reside? A. 2901 Steele Street, Denver, Colorado.

Q. What is your business? A. I am with the Aviation Service Supply Company, Stapleton Airfield, Denver, Colorado; handle aviation, automotive and industrial supplies as a distributor.

Testimony of Paul Christensen—Direct

Q. What is your position with Aviation Service Supply Company? A. Chairman of the board of directors.

Q. Aviation Service Supply Company is a Colorado corporation? A. Yes.

[Record p. 2717]

Q. How long has your company been in business—approximately? A. Nine years.

Q. Have you held the same position with your company during this entire period, or have you held different positions? A. I have held different positions.

Q. What positions have you held with the company during this period? A. In addition to being chairman I am now and have always been treasurer. Also I was secretary-treasurer at one time.

Q. Among the products your company sells do you sell tapes of any kind? A. Yes.

Q. For how long has your company been selling tapes? A. Since our inception.

Q. What brands of tapes have you sold, and what kind? A. Industrial tapes, Technical Tape products, Minnesota Mining & Manufacturing Company products.

Q. What kind of tapes are they; are they pressure, sensitive, adhesive tape? A. Yes.

Q. You handle different tapes? A. Masking tape, cellophane tape, vinyl, polyethelene and cloth tape.

Q. You mention various types of tapes you sold, did you handle the entire line of industrial tape the corporation produced? A. Yes.

Q. And did they make these various types of tapes you mention? A. Yes.

Q. What other names did they use? A. Permacel and Techcel and masking and cellophane and other products.

Q. Did you also sell all the different tapes mentioned as manufactured by Minnesota Mining & Manufacturing Company? A. I have handled masking tape, electric tape, scotch and cellophane tape.

Q. What about Technical Tape Corporation products, what types of tapes of theirs did you sell? A. Cellophane, masking and other products.

Q. Now when you first started in business did you try to make arrangements with Minnesota Mining & Manufacturing Company to handle their line? A. Yes.

Q. What happened? A. They advised us because of the shortage of material and their inability to supply their current jobbers with their requirements they were unable to establish us as a distributor of their products?

Q. And pressure adhesive tape? A. Yes.

Q. Then you took on the Industrial Tape Corporation line; is that right? A. Yes.

Q. After you took on the Industrial Tape Corporation line did anyone representing Minnesota Mining & Manufacturing Company call on you to try to interest you in selling their line of pressure sensitive adhesive tape at various times? A. Yes.

Q. Will you tell us about those calls, and what happened, and give us the history of your relations with Minnesota & Manufacturing Company until you became its distributor? A. After having developed a considerable volume of business with Industrial Tape Corporation products, Minnesota Mining & Manufacturing Company representative on various occasions called and discussed with our company the advantages and possibilities of our becoming a distributor for them and their products.

Q. In those discussions tell us the susbtance of what Minnesota Mining & Manufacturing Company's representative said to you in their efforts to induce you to take on its line of tapes, particularly.

Mr. Hofeldt: I object to that question on the ground that the witness has not yet testified that he was with a Minnesota Mining & Manufacturing Company spokesman.

Testimony of Paul Christensen—Direct

Q. Will you tell us how the Minnesota Mining & Manufacturing Company's representative talked at the time they made their calls before your company finally became its distributor? A. Contacts and discussions were held with Mr. B. M. Flanders, an officer of this company, and myself.

Q. All right now, in their discussion with you what happened? What did they say; what did you do about that, and what did you say to them? A. They pointed out what they believed to be the reasons justifying our handling their products, in particular such points as leader in their field, completeness of their line, research facilities, prestige, and other similar sales points.

Q. What did your company do in response to these requests by the representative of Minnesota Mining & Manufacturing Company that your company take on its line of pressure sensitive adhesive tapes? A. In staff meetings of our company the decision was to not handle Minnesota Mining & Manufacturing Company's products and to remain with present sources because of past favors and considerations.

Q. Now you finally did become a distributor of Minnesota Mining & Manufacturing Company's products, including pressure sensitive adhesive tape; is that right? A. Yes.

Q. Do you know when that was, approximately? A. The fall of '53.

Q. You have handed me some correspondence this morning which I now show you. Can you identify these two letters that I am showing you? A. One letter, which I am examining, is a copy of an original letter to Minnesota Mining & Manufacturing Company, dated September 28, dictated by me, confirming original letter outlining a portion of our distributor agreement in a letter of Mr. W. H. Benson of the Minnesota Mining & Manufacturing Company dated September 25, 1953.

Q. Does that refresh your recollection as to when you became a distributor? A. Yes, it was during this period.

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Q. Now, Mr. Christensen, is it correct to say that Minnesota Mining & Manufacturing Company was trying to sell your company on becoming its distributor for a period of approximately five or six years before you actually took on the line?

• • •

A. Do you wish me to answer Yes or No?

Q. Explain the circumstances. A. During approximately four or five years prior to September of 1953 we were contacted by representatives of Minnesota Mining & Manufacturing Company on several occasions with regard to the possibility of our becoming a distributor of their products.

Q. What finally caused you to arrange for the distribution of Minnesota Mining & Manufacturing Company products in September, 1953? A. At the instance of several customers that we furnished with Minnesota Mining & Manufacturing Company products we believed it advisable to become a distributor of their products.

Q. Now after you became a distributor of Minnesota Mining & Manufacturing Company products including their tape did you purchase tapes and other products from Technical Tape Corporation? A. Yes.

Q. When did you become a distributor of the tape products of Technical Tape Corporation, whether before or after you took on the Minnesota line? A. After.

Q. About how long after? A. I would estimate, without checking the record, three or four months.

Q. How soon after you took on the distributorship of Technical Tape Corporation products did Minnesota Mining & Manufacturing Company representative find out

about it—was it very soon after that? A. I don't have that knowledge.

Q. When was the first time Minnesota Mining & Manufacturing Company's representative talked to you about your handling Technical Tape Corporation products?

Mr. Hofeldt: I am going to object to that question. I think you have been doing an awful lot of leading. I just prefer that the witness do the testifying here.

Mr. Kipnis: Strike the question altogether, and the objection, and I will rephrase it.

Mr. Hofeldt: Leave it stand.

Q. Did anybody representing Minnesota Mining & Manufacturing Company talk to you about the fact that you were selling pressure sensitive adhesive tape manufactured by Technical Tape Corporation? A. Yes.

Q. When was the first time this matter was discussed with you by a representative of Minnesota Mining & Manufacturing Company, approximately? A. In the spring of 1954.

Q. Who acting for Minnesota Mining & Manufacturing Company talked to you about it? A. Mr. Del Styers.

Q. Had Mr. Del Styers called on you before that? A. Yes.

Q. And you knew him as the representative of Minnesota Mining & Manufacturing Company? A. Yes.

Mr. Hofeldt: Again, Mr. Kipnis, I am making the objection that you are doing an awful lot of leading, questioning here by direct e xamination.

Mr. Kipnis: That is proper.

Q. Where did Mr. Styers talk to you as you testified; where was that conversation, on the phone? A. To my office.

Q. What did he say, and what did you say? A. Mr. Styers advised me that it had just come to his attention that we were the successful bidder on a requirement for cellophane tape on Denver Public Schools, and that if we were going to promote Technical Tape products, whose product we bought in this instance, we were, effective as of that moment, no longer a distributor for Minnesota Mining & Manufacturing Company as far as he was concerned, and that he was immediately advising his factory of his wishes.

Q. Had you talked to Mr. Del Styers on the telephone before that conversation? A. On many occasions.

Q. And you recognized his voice over the phone, did you? A. Definitely.

Q. Now what happened after that conversation, did anyone representing Minnesota Mining & Manufacturing Company talk to you about the product of Technical Tape Corporation, after that phone conversation? A. That is two questions. Do you want me to answer one at a time?

Q. One at a time. A. The first part?

Q. Yes. A. The first part of that question is a very general question, what happened after my conversation with him. I will elaborate if you want me to.

Q. Well, give us the facts, tell us the story. A. We encountered difficulty in obtaining shipments and replies to our correspondence with Minnesota Mining & Manufacturing Company. The second—

Q. I forget the second question, and maybe you have too. A. It was regarding with whom did I have conversation. Would you care to read the latter part of the question?

(Question read).

A. Yes.

Q. Who on behalf of the Minnesota Mining & Manufacturing Company talked to you about the product of Technical Tape Corporation after your first conversation with

Mr. Del Styers? A. As I recall, within a short period of time a Mr. Holden visited my office to get the details and statement of our company policy regarding the handling of competitive products.

Q. Was anyone with him at the time? A. No.

Q. When was that? A. I can't recall the date, as there was no occasion to have any recording during this visit.

Q. With whom did Mr. Holden talk on that visit? A. With me.

Q. Will you tell us the substance of the conversation, what he said and what you said? A. He pointed out the advantages of handling his company's products to the exclusion of other manufacturers of the same products, and endeavored to obtain our commitment to handle his products to the exclusion of others.

Q. Did he mention any particular product by name at that time? A. I believe the conversation was involving all products of Minnesota Mining & Manufacturing Company that we were authorized to handle.

Q. Did he mention any competitive products, I mean? A. No.

Q. Following the conversation you just testified to did anyone representing Minnesota Mining & Manufacturing Company again call on you to discuss the question of your selling Technical Tape Corporation products? A. Subsequent to Mr. Holden's visit a Mr. Benson and Holden called on me, at which time Mr. Benson in addition to having other subjects discussed advised me that because of our company activity with competing lines his company did not believe that we could properly represent and promote their products, and that therefore he was obliged to advise us that we were no longer authorized distributor of Minnesota Mining & Manufacturing Company products, and that we might return our merchandise to the factory for credit.

Q. Who was present at that conversation beside you, Mr. Benson and Mr. Holden? A. None other.

Q. Is that the same Mr. Benson who signed the letter dated September 25, 1953, to Mr. Christensen, Exhibit 2 for identification? A. It appears to be.

Q. Do you think it is the same person? A. I did not see him sign it, but I think it is.

Q. Do you know the position he held with Minnesota Mining & Manufacturing Company? A. I believe he was vice president in charge of sales, or sales manager, or sales manager of certain branches, I am not sure, sales manager St. Paul branch sales.

Q. What brand name does Technical Tape Corporation use to identify its tapes? A. Tuck tape.

Q. Was there anything said or done at that meeting which you last mentioned to indicate to you why Minnesota Mining & Manufacturing Company was cancelling out your distributorship? A. As stated before, because of our activity with competing manufacturer's products.

Q. At that time you took on the distributorship did you tell the representative of Minnesota Mining & Manufacturing Company that you would handle Technical Tape Corporation tapes? A. We were very definite in stating our company policy to Minnesota Mining & Manufacturing Company that we were not willing to discontinue Industrial tape products or any other manufacturer's products in consideration of our being appointed their distributor, except as Minnesota Mining & Manufacturing Company products were to become more acceptable with our customers, and desirable to carry in stock. We did indicate that we hoped that the sale of their products would justify our accelerating our purchases with their company.

Q. Was any objection made to anyone representing Minnesota Mining & Manufacturing Company to the fact that your company was selling Industrial Tape corporation's tapes at any time?

Mr. Hofeldt: I object to that question on the ground that it is leading.

Q. I am asking the question. A. Yes.

Q. When— A. Restate the question. I am sorry. Read the question again.

(Question read).

A. No—correction. I might elaborate on that last question. Is that agreeable?

Q. Yes, you go ahead and answer.

Mr. Hofeldt: If it is answering the question. It is objectionable if it is not.

The Witness: A single word answer would not denote the entire meeting of the minds regarding the question.

Q. In other words, you wish to explain your previous answer? A. Right.

Q. Go ahead and do it. A. It was apparent from the discussions with Minnesota Mining & Manufacturing Company representatives that while they would favor our handling their products exclusively they would not insist that this would be a requirement of our becoming their distributor, and they were aware we were to continue to handle Industrial Tape products.

Q. Was any discussion ever had between you and a representative of Minnesota Mining & Manufacturing Company concerning the question the Industrial Tape Corporation products, and if so, will you tell us what the conversation was, and approximately when it took place?

Mr. Hofeldt: I am again objecting to this question. The whole line of examination is obviously leading.

A. We had many discussions with various representatives of the manufacturers of tapes, and we were of the opinion that Minnesota Mining & Manufacturing Company

were not as concerned with competition from Industrial Tape Corporation as they might be with other manufacturers, because they were participating in some manner of profit or sale of some Industrial tape—in selling some Industrial tape products.

Mr. Kipnis: I will ask the reporter to mark all those at one time, then we may refer to these letters.

Said documents were marked respectively as Christensen Exhibits 3, 4, 5, 6, 7, and 8.

Q. Mr. Christensen, as a result of the conversation you had with Mr. Holden and Mr. Benson you testified to, did you understand to which particular brand of tape these people had reference when they were discussing the matter with you? A. No doubt.

Q. Which brand of tape did they refer to?

Mr. Hofeldt: I object to the question that you are asking him, as analysis of what was in somebody else's mind.

A. I was going to answer that—

Mr. Kipnis: I am asking his understanding of the conclusion he arrived at from what was said and done at that meeting.

The Witness: Would you read that question back?

Q. (Question read as follows: Mr. Christensen, as a result of the conversation you had with Mr. Holden and Mr. Benson you testified to, did you understand to which particular brand of tape these people had reference when they were discussing the matter with you?)

Mr. Hofeldt: I object to the question. You are asking him what was understood by a representative of Minnesota Mining & Manufacturing Company.

Q. You may answer the question I am asking you, your understanding, not what—

Mr. Hofeldt: You are asking his understanding of what was in the mind of the Minnesota Mining & Manufacturing Company.

Mr. Kipnis: I am asking what his understanding was as a result of the conversation that went on, and the things that went on at that meeting. You may answer the question.

A. I assumed in my mind, and there was no doubt in my mind, that the gentlemen were talking about Technical Tape Corporation products.

Q. Will you explain why you assumed that? A. Because no objection was raised to our activity with the one other manufacturer's products which we handled prior to becoming distributor for Minnesota Mining & Manufacturing Company, and the conversation on the phone with Mr. Del Styers and Mr. Holden preceding the meeting with Mr. Benson.

Q. Now after the meeting you had with Mr. Benson and Mr. Holden what happened with respect to this matter of your acting as distributor for Minnesota Mining & Manufacturing Company tapes? A. No further shipments were received from Minnesota Mining & Manufacturing Company. Within a week a representative of Minnesota Mining & Manufacturing Company from Kansas City, whose name I do not recall, called on us and solicited business from us on their electrical tape, and after advising him of our meeting with Mr. Benson and Mr. Holden, and their advising us we were no longer distributors, this representative said that as far as he was concerned, his division con-

sidered us a distributor, and he would accept our order until he was advised not to do so.

Accordingly, in my letter of March 5 to Minnesota Mining & Manufacturing Company at St. Paul, Minnesota, I requested a decision as to whether they would accept orders for electrical tape, and a reply by letter dated March 15 signed by J. T. Donahue advised us that Mr. Benson was speaking for their electrical tape branch.

Q. Mr. Christensen, you have in your hand some correspondence; will you go through those letters and identify them and tell us what each one is? A. Exhibit No. 3 is a copy of my letter to Minnesota Mining & Manufacturing Company dated March 5, which I dictated and signed.

Exhibit No. 4 is a copy of Mr. J. T. Donahue's reply to Exhibit 3.

Q. For whom was Mr. Donahue acting? A. Minnesota Mining & Manufacturing Company.

Q. What is the date of Exhibit 4? A. March 15, 1954.

Exhibit No. 5 is a letter from Minnesota Mining & Manufacturing Company dated March 17, signed by L. R. Kastner, concerning credit for returned goods per authority of Mr. Benson and Holden.

Exhibit 6 is a letter from Paul J. Christensen to the Minnesota Mining & Manufacturing Company dated March 26, 1954, contesting the deduction from our credit memorandum of a 25 per cent handling charge, since the return of this merchandise was for the convenience of Minnesota Mining & Manufacturing Company, and at their request.

The credit was subsequently received as a result of my March 26 letter. No further reply was made to the letter.

Q. And the last letter, will you identify it? A. Oh, excuse me. Exhibits 7 and 8 is a copy of a letter dictated and signed by me dated March 26, 1954, to Technical Tape Corporation at Burbank, California, in which I outlined the facts regarding Minnesota Mining & Manufacturing Company distributorship cancellation.

Q. You spoke of returned merchandise. Why did you return merchandise to Minnesota Mining & Manufacturing Company? A. Because we were replenishing our stock and no longer to be a distributor, so we had no reason to retain their merchandise in our inventory.

Q. At whose request did you return it? A. Mr. Holden and Mr. Benson.

Q. Generally, what type of merchandise did you return? A. Abrasive masking tape. We retained a portion of the merchandise in our stock that we knew would be sold to would be customers.

Q. These letters and documents which you submitted here this morning, Mr. Christensen, Exhibits 1 to 8 for identification, are these letters you received or sent in the regular course of business? A. Yes.

Q. And can you tell me whether they are the actual copies taken from your files or photostats of same? A. They are.

Cross-Examination

* * *

Q. How long have you handled Technical Tape products? A. Oh, I would have to check the file to see the first invoice, but it would occur to me it was in the fall of 1953.

Q. When did you start handling Minnesota Mining & Manufacturing Company products? A. I believe, to the best of my recollection, it was August or September, Fall of 1953, however, prior to the handling of Technical Tape.

Q. You distributed Minnesota Mining products then prior to your distributorship of Technical Tape. A. Right.

Q. If that is what the relationship was. A. Correct.

Q. Now as I understand your direct, you first tried to get Minnesota Mining to take you as a distributor; is that correct? A. In the fall, I believe it was, of 1945 or in the spring of 1946, I would have to check the record to see when we first went in the business.

Q. Was that because there was a demand for Minnesota Mining products? A. Yes, sir.

Q. And then they came back to you later to get you to become a distributor? A. Yes.

Q. How was that carried on, by what medium; did they contact you then and— A. Personal contacts by their representatives.

Q. You did not approach them to become a distributor; they approached you? A. Yes.

Q. They approached you? A. Yes.

Q. You said in your direct that you had had a considerable volume of business in Technical Products— A. Let me—

Q. I have not finished. A. Go ahead. Sorry.

Q. What was the largest volume per month that you had of Technical products prior to the time you became distributor for Minnesota Mining & Manufacturing? A. Oh, the largest month was approximately $7,000.

Q. Do you recall who it was of Minnesota Mining that approached you to become a jobber? A. In the last or first instance?

Q. In the last instance. A. Benson.

Q. Mr. Benson? A. Yes, sir.

Q. What was his position with Minnesota Mining, if you know? A. Sales representative.

Q. Do you know Mr. R. J. Fitzgerald? A. Yes.

Q. What is his position? A. Sales representative for Minnesota Mining & Manufacturing Company.

Q. Was he at the time you became a distributor and immediately before? A. I assume so.

Q. Did you have any conversation with him about becoming a representative for Minnesota Mining? A. Yes.

Q. Who initiated those conversations? A. He called at our office.

Q. You have identified, Mr. Christensen, Exhibit No. 2, letter of September 25, 1953, from W. H. Benson, signed

"Wally", to Aviation Service Supply Company, Stapleton Airfield, Denver, Colorado, attention: Mr. Paul Christensen, Sales Manager. I refer you to this paragraph:

> "Dear Paul: First, let me say thanks for both Dick FitzGerald and me for your interest in handling 3M products."

Do you see that? A. Yes.

Q. The next paragraph reads:

> "We are going through the necessary formalities here prior to the final decision on your request for a jobbing arrangement on our abrasives, automotive adhesives and masking tape products. Before a final decision is reached, we would like to confirm our discussion of last Friday to make sure that we are in full agreement."

Did you receive that? A. Yes, sir.

Q. Are those statements substantially true, it was your interest in handling Minnesota Mining products and your request for a "jobbing arrangement"? A. I would interpret those provisions in the letter as reflecting the general attitude of Minnesota Mining & Manufacturing Company throughout our negotiations.

Q. They do accurately reflect that? A. Would you read my answer there? (Answer read.) I believe my answer is correct as stated.

Q. You never confirmed that opinion of Minnesota Mining that you requested them to become a jobber? A. I would have no objection.

Q. Mr. Christensen, I would like a "Yes" or "No" answer to me, then you can explain if you want. A. Will you restate the question?

Q. Did you ever confirm Minnesota Mining's attitude that you requested the distributorship as your own understanding of the negotiations? A. In which instance?

Q. In the last instance, in relation to finally becoming a distributor? A. I don't believe that question can properly be answered by Yes or No.

Q. I think it is full susceptible to a Yes or No answer.

Mr. Kipnis: If the witness does not want to answer Yes or No, he can explain.

Mr. Hofeldt: I first want a Yes or No answer, then he can explain it. I think it is perfectly proper.

Mr. Kipnis: No, it is not proper, when the witness says he cannot answer the question Yes or No, he has the right to state that, and if you want to know why you can ask him why. Some questions just can't be answered yes or no.

Q. All right, I will ask you this question: Did you ever confirm the statements contained in this letter Christensen Exhibit 2? A. May I see the Exhibit? (Witness examines.)

Q. I note you are now reading Christensen Exhibit 1; is that correct? A. Right.

Q. Will you answer my question? A. May I read the document first?

Q. I would prefer you answer it on the basis of your recollection first, if he has any recollection.

Mr. Kipnis: I think you ought to let the witness examine it. I am just telling the witness his rights if he does not recollect the facts. We want the facts and nothing but the facts. Now you have a right to reply, Mr. Christensen.

Mr. Hofeldt: If he has no independent recollection—

The Witness: Will you please repeat the question?

Testimony of Paul Christensen—Cross

Q. (Question read as follows: Did you ever confirm the statements contained in this letter Christensen Exhibit 2?) A. The general provision.

Q. Would you please answer the question Yes or No, then you can explain anything you wish. A. The general provision of the letter referred to was confirmed in my letter of September 28.

Q. Which is Christensen Exhibit 1; is that correct? A. Right.

Q. So the answer to my question is Yes?

Mr. Kipnis: Read the question back again.

Mr. Hofeldt: Will you read the question back to the witness?

(Question re-read.)

The Witness: What was the reply?

Mr. Kipnis: What is the next question?

Mr. Hofeldt: That the answer to my question was Yes.

The Witness: I believe that the provisions of my letter of the 28th, Exhibit No. 1, are self-explanatory.

Q. Then you will stand on the letter of September 28, 1953, Christensen Exhibit 1, as your answer? A. May I see the exhibits again? (Examines.) In order to further qualify—

Q. Do I take it that you can't answer my last question? A. No.

Q. Then will you answer it Yes or No, please?

Mr. Kipnis: Read the last question again.

Q. (Question re-read: So the answer to my question is Yes?) A. No.

Q. All right. I can ask another question. Then your letter of September 28, 1953, Christensen Exhibit 1, does not state the facts? A. Does not state all the facts.

Testimony of Paul Christensen—Cross

Q. You do not in that letter Christensen Exhibit 1 take issue with anything found in the letter of September 25, 1953, Christensen Exhibit 2, do you? A. I found no reason to take issue at the time the letter was written.

Q. Then the answer to my question is Yes—there is nothing in Christensen Exhibit 1 with Christensen Exhibit 2? A. Repeat the question.

Mr. Hofeldt: Would you read it back, please? (Question read, and re-read.)

A. No, unless I am confused in the manner in which your question is stated.

Q. Prior to the time that you entered into distributorship agreement with Minnesota Mining had you been asked by any of your buyers of products for Minnesota Mining products? A. Yes.

Q. That demand existed right up until the time that you became distributor. A. At various times.

Q. But it did continue, was continuous up to that time? A. Yes.

Q. And it continued during the time you were the Minnesota Mining & Manufacturing Company distributor? A. Yes.

Q. That the customer would come in and ask for Minnesota Mining products? A. Yes.

Q. Did you mention to any Minnesota Mining representative at the time of those last negotiations for a distributorship agreement that you had had a $7,000 a month volume of business? A. Yes.

Q. To whom was that? A. I do not recall the exact representative. I am sure they mentioned it.

Q. Would it be Mr. Fitzgerald? A. It could be.

Q. If he says it is you would not deny that? A. I have no reason to deny it.

Testimony of Paul Christensen—Cross

Q. Where is Technical Tape's office in the City of Denver? A. I don't know.

Q. Do you have more than one phone here? A. We have four phones.

Q. Would you give me the numbers of them, please? A. Florida 2391, 2392 and -293 and -94.

Q. Do you have any phone here Florida 5-8909? A. Not to my knowledge.

Q. Do you have a phone book here for the City of Denver A. Yes. (Produces.)

Q. In the current issue of the Metropolitan Denver Telephone Directory, Spring of 1954, I refer you to page 485, and I have encircled something there I would like for you to read into the record. A. "Technical Tape of California, Ind., tapes, Stapleton Airfield, Florida 5-8909."

Q. If I were to call that number would I call this office? A. Let us call the number and find out what happens.

Q. All right.

Mr. Kipnis: Let the record show that the witness dials Florida 5-8909, and hands the phone to Mr. Hofeldt.

Mr. Hofeldt: (on the phone) What office is this, please—what office is this?

• • •

Mr. Hofeldt: My name is John Hofeldt. I am from out of town—all right. Thank you.

Mr. Kipnis: Will you state for the record what the other party on the line said?

Mr. Hofeldt: It was the residence of Mr. Don Sigmeyer.

Q. Does Mr. Sigmeyer have an office in this building? A. No, sir.

Q. Do you know Mr. Sigmeyer? A. Yes, sir.

Q. And they have no office here on Stapleton Airfield; is that correct? A. Not in our place of business.

Q. But they do have an office here? A. I do not know.

Q. Do you know Mr. Sigmeyer? A. Yes, sir.

Q. Where does he have an office? A. I don't know.

Q. What is the spelling of that name? A. I do not know. I think it is Seickmeyer. I may be wrong.

Q. Does he live here in Denver? A. I guess he is on the road most of the time, as I understand it, but I think he does maintain a Denver residence or room.

Q. At the time you became a distributor to Minnesota Mining & Manufacturing Company did you put in a stock of tape? A. Yes.

Q. Approximately of what value? A. I believe our initial order was approximately $500.

Q. Do you know what your total volume in tapes of all kinds is per month—or was per month, first?

Mr. Kipnis: When?

Q. Strike that question. At the time you became a representative for Minnesota Mining what was your approximate volume in tape sales? A. Per month?

Q. Per month. A. I would estimate the volume to be approximately $4,000 per month.

Q. And did that volume continue after you became a representative of Minnesota Mining? A. Yes.

Q. During the entire time you were sales jobber for Minnesota Mining what were your total purchases of Minnesota Mining products—approximately? A. I do not know but I would estimate them to be between $1,000 and $2,000.

Q. Was any of that tape returned to Minnesota Mining? A. I would have to check the records—I don't believe any of it was returned, but I would have to check the records.

Q. But your total purchases from Minnesota Mining were in the neighborhood, and I mean now the total pur-

chases during the entire time when you were sales representative or sales jobber of Minnesota Mining—your entire purchases were between $1,000 and $2,000? A. The $2,000 represents invoices to us covering shipments and not total purchases, as considerably more purchase orders were issued than material actually shipped and billed.

Q. What were your entire sales of Minnesota Mining & Manufacturing Company throughout the entire period that you were a distributor or jobber for them? A. I would estimate that the sales for the relatively short period of time during which we were authorized distributors of Minnesota Mining & Manufacturing Company were not in excess of $2,000.

Q. Would it be incorrect to say that it was considerably less than $2,000? A. I would have to check the records to know the exact amount. My honest opinion would be that it would be between $1,000 and $2,000.

Q. Would it be correct to say that your entire sales during that period amounted to $236? A. I would have to check my records to verify that amount to see. I would say that that figure would be incorrect unless they were taken right from our records.

Q. In the short period that you were representative for Minnesota Mining, it was approximately six months, was it not? A. I would say that that was substantially correct, from the time of the initial negotiations through the time of the return of the merchandise for credit.

Q. You started out as a representative of Minnesota Mining about September 28, 1953, did you not? A. I would say that the negotiations, contact of their sales representatives were fall or summer of 1953.

Q. And about when did you become distributor? A. I would have to check the records. I believe that we became a distributor and placed our first order for electrical tape in April or May, 1953.

Testimony of Paul Christensen—Cross

Q. You cannot give me the date that you became authorized distributor for Minnesota Mining & Manufacturing Company? A. May I check my files and see if copies of invoices are readily available, which would reflect the date that they considered us as approved, and began shipments?

Q. Well, let me submit to you Christensen Exhibit No. 1; does that refresh your recollection? A. Exhibit No. 1 is in reply to September 25, and I believe is self-explanatory.

Q. Yes, I realize that, but I was wondering if that exhibit refreshed your recollection as to when you became an authorized distributor of Minnesota Mining? A. Not necessarily, no.

Q. Was it about that time? A. I believe that we were receiving merchandise and shipments and invoices before my letter of September 28.

Q. So you were an authorized distributor prior to that time—September 28, 1953? A. I do not believe that there is or was any particular document that establishes a definite date of our becoming an authorized distributor. What we were primarily interested in was the receipt of merchandise.

Q. Mr. Christensen, would you check your records, and I think if it is all right with you that you can refer those records of photostat copies of those to Mr. Kipnis for inspection as to the date that you became an authorized distributor of Minnesota Mining, and also as to the full dollar value of your sales of Minnesota Mining & Manufacturing Company products during the time of your authorized distributorship?

Mr. Kipnis: Can you give him that?

The Witness: No, I cannot.

Mr. Kipnis: If you can do it conveniently it would be good to comply.

Q. If you will have that information, see if you can furnish the total volume of goods ordered. A. I believe

that provided the documents have not been removed from our files for any reason, I could obtain without considerable work and difficulty the total amount billed us by Minnesota Mining & Manufacturing Company. To determine the total sales would require detailed analysis on each sales book, which would be impracticable.

Mr. Kipnis: I imagine Mr. Hofeldt is interested in your purchases.

(Discussion off the record.)

Q. To go back on the record, I want to ask this question: Would the records of total purchases by you from Minnesota Mining of their products minus the amount of your return to Minnesota Mining reflect your total sales volume during the period of your authorized distributorship? A. I believe your deduction is substantially correct.

Q. And therefore you believe we could determine that from Minnesota Mining records? A. Not being in position to examine those records, I cannot vouch for their accuracy.

Q. Can you definitely state that the amount of $236 as representing your entire sales of Minnesota Mining products during the period of your distributorship is incorrect? A. I would say offhand it is.

Q. Can you definitely state it is? A. Yes.

Q. It is incorrect? A. Yes.

Q. What is your best recollection of your sales of Minnesota Mining products during the period of your distributorship? A. I would have to check the records, but I would be surprised if they were not in excess of a thousand dollars.

Q. During the negotiations leading up to your becoming authorized distributor, or Minnesota Mining representatives, in those negotiations did you ever express the thought that your company would be unable to give Minnesota Mining account the volume on tape products which they would expect from a jobber? A. Yes, sir.

Testimony of Paul Christensen—Cross

Q. After you became authorized distributor of Minnesota Mining products did sales representatives of Minnesota Mining call on you frequently? A. Occasionally—not frequently.

Q. Do you have any records of those visits? A. No, sir.

Q. Do you recall whether they called on you about 18 times during that period? A. They may have.

Q. Do you have any outside salesmen? A. Yes, sir.

Q. How many do you have? A. At this time, or then, or at what period?

Q. At this time, first? A. Five.

Q. At the time you became an authorized distributor how many did you have? A. I believe that we had seven at some time during the time we handled Minnesota Mining & Manufacturing Company products.

Q. Were you aware that as to transparent cellophane pressure sensitive adhesive tape that Minnesota Mining had a patent on it? A. I am not aware that it had. I had no reason to consider the fact.

Q. Were you aware of that at the time that you took on—or you began distributing Tuck brand tapes? A. I believe that there was some discussion.

Q. Is that your answer? A. No—period.

Q. Discussion by whom? A. Minnesota Mining & Manufacturing Company men.

Q. With any Tuck representative? A. Yes.

Q. Did they tell you that this patent had been previously adjudicated valid and infringed in lawsuits in the Seventh Circuit? A. I do not recall the details of the discussion. I had no reason to question it.

Q. You knew that this patent had been in litigation, however? A. Not until after arrangements had been made to handle the Tuck Tape.

Q. Did you know that at the time that you submitted the bid on the basis of Tuck tape, to the Denver School Board? A. I was aware that there were some legal entanglements or difficulties.

Q. But my question is to the effect, did you know at that time that that patent had been previously adjudicated? A. No, sir.

Q. Do you consider Tuck cellophane tape and Scotch brand cellophane pressure sensitive adhesive tape as approximately the same. A. I consider them all tape.

Q. Did you consider those two, either cellophane tape or Tuck cellophane tape and Scotch brand pressure sensitive adhesive as cellophane tape? A. On what I was purchasing it would make no difference what was purchased.

Q. You would purchase them for the same use? A. Right.

Q. What was the approximate volume of your sales of Tuck brand tape during the period of your distributorship with Minnesota Mining? A. Per month, or for the whole period?

Q. Per month. A. I had no reason to check in particular. I would estimate that three to four thousand dollars per month was sold of Tuck products.

Q. Was that tape cheaper—Tuck brand? A. Yes.

Q. Did you push Tuck brand tape on that basis in preference to Minnesota Mining & Manufacturing Company tape? A. Our salesmen were instructed specifically that they were not to sell Tuck tape, Minnesota Mining or Industrial tape products to the detriment of any other manufacturer, and as long as we were selling an account their tape requirements we were not to take a position in favor of any manufacturer—

Q. That they had to take a position in regard to— A. And the fact that this account was being handled by other distributors, they were advised to try and obtain this business.

Q. They were advised to try to sell Tuck tape? A. Whatever they could to obtain that business.

Q. Were they advised to sell Tuck tape? A. Tuck tape, or any other tape that they could sell to that customer—or any other tape.

Q. Did you or your salesmen ever attempt to sell Tuck brand tape to customers on specific request for Minnesota Mining tape? A. Yes.

Q. Did you ever give a customer the Tuck tape when they asked for Minnesota Mining tape? A. When we were unable to obtain delivery from Minnesota Mining & Manufacturing Company on tape we had an order we endeavored to obtain the customer's permission to substitute whatever was available in order to keep the customer from cancelling his order.

Q. Did you ever drop the price of Minnesota Mining tape in order to secure the business? A. Not intentionally.

Q. You did it unintentionally? A. We have no specific knowledge. If there was examples they were unintentional.

Q. But you were selling more Tuck tape than you were selling any other tape during the period of your distributorship of Minnesota Mining? A. Right.

Q. How do you account for that? A. Better price, more sales cooperation from the company and their representative, customer preference.

Q. How did the customer preference arise? A. Through the efforts of the sales representative usually, and also through the desire to save money on tape price.

Q. And your sales representatives also? A. Our salesmen were always encouraging customers to purchase tape.

Q. Tuck tape? A. Any tape.

Q. Tuck tape in preference to any other tape? A. Not especially.

Q. Would your answer be the same if you recollect the price differential? A. Keep in mind that the higher the price for the grades purchased the greater would be the incentive to sell the higher price article if they could obtain the order.

Q. Was your price differential greater on Tuck tape than it was on Minnesota Mining tape? A. Tuck tape's price was cheaper—lower.

Q. Was your profit greater on Tuck tape than it was on Minnesota Mining tape? A. Considerably.

Q. So it was in your interest to push your, or your company's interest, to push Tuck tape in preference to Minnesota Mining tape—correct? A. That is correct.

Q. Then you did push Tuck tape in preference to Minnesota Mining tape; is that correct? A. No.

Q. Even on the basis of price has nothing to do with it? A. Our salesmen were instructed to sell the customer what they preferred. However, if we were not servicing the account with what they were currently purchasing our salesmen were instructed to try to obtain the business.

Q. By selling them Tuck tape? A. By trying to sell them any tape, their present tape or any other tape which we may handle.

Q. You said that Tuck tape had better sales representation? A. I did not say that.

Q. I understood you to say that—is it a fact Tuck tape does not have better sales representative than Minnesota? A. I did not say that.

Q. What is the fact in regard to that? A. We received better cooperation from the Tuck sales representative than other representatives.

Q. Did you ever have any sales meeting with Minnesota Mining & Manufacturing Company representatives? A. We did.

Q. How many? A. I do not know what you would consider a sales meeting, but considering the sales efforts made during various contacts, and one special sales meeting in particular I do recall.

Q. Just one? A. One special sales meeting by appointment. There were many times during their sales representatives visits that a considerable sales story was presented to one or more salesmen.

Q. And had Minnesota Mining tried on several occasions to get you to hold that meeting? A. As I recall there

was considerable effort on both parties to arrive at a mutually satisfactory date to hold a sales meeting.

Q. Were you ever able to arrive at a definite date? A. Yes.

Q. Were you ever slow in paying your bills to Minnesota Mining? A. I believe all bills were paid within the normal terms and in the usual course of business.

Q. Of whose business, yours or theirs? A. Ours.

Q. Isn't it a fact that your October bill was not paid until December 8? A. It may be, I do not know the circumstances.

Q. Isn't it also true that your December bill was delayed until February 4? A. I would have to verify the circumstances to know the circumstances.

Q. You know that to be in accordance with the fact? A. I would not question the accuracy of your statement.

Q. Would you say that it was entirely possible that your January bill was not paid until February 26? A. That is quite possible, but that would still be within the standard terms.

Q. Have you ever extended to any representative of Technical Tape permission for sales representatives to use your facilities here as a base of operations in the Colorado area? A. We would try to use our efforts and our facilities and try to obtain the cooperation and use of those facilities by the representatives of all companies we represent.

Q. Answer the question; give me a Yes or No answer. Isn't it true that you extended and permitted a representative of Technical Tape to use your facilities here at Stapleton Airfield at Denver, Colorado, as a base for his operation? A. We did.

Q. There would be no need for Minnesota Mining to use your offices here, would there? A. They were available. I do not know that they had occasion to use them or not. We would have been happy to have had them.

Testimony of Paul Christensen—Cross

Q. Does Tuck tape representative work out of your office? A. He was in our office a considerable amount of his time.

Q. Did he work out of your office? A. We would like to think that he did. However—

Q. Did he express any—

Mr. Kipnis: Let him finish his answer.

The Witness: We would like to think that he did. However we have evidence to indicate that he was also working closely with other jobbers and distributors.

Q. Do you know the name of such jobbers and distributors? A. Yes.

Q. Will you give them? A. Hale & Perry, Broadway Auto Parts.

Q. Do you profit in any way from Technical Tape Company sales in the Denver area? A. I do not know what you are referring to. Naturally we profit on sales we make in the Denver area on Tuck tape.

Q. Are you Tuck tape representative in this area? A. We are authorized distributor for Tuck tape.

Q. Are there any others in this area that you know of? A. Yes, sir.

Q. Do you supply these other distributors for their requirements? A. If we possibly can we do.

Q. Is there any other source locally for them for their requirements, Technical Tape? A. Definitely.

Q. Where do you get your requirements of Technical Tape? A. Some from New York, some from Burbank.

Q. You order them directly from them? A. Yes, sir.

Q. Do you maintain a stock of goods here of Technical Tape? A. Yes, sir.

Q. Only for your own requirements and those of your sales outlets? A. They are carried in our stock for our customers.

Testimony of Paul Christensen—Cross

Q. Do you order Tuck tapes from any Technical Tape Distributor in this area? A. Only on an emergency basis.

Q. But they order quite frequently from you, do they not? A. Only on an emergency basis.

Q. You are sure of that? A. Yes. We don't get enough of it, I will guarantee you.

Q. In discussion with Benson and Holden had with you they never mentioned Technical Tape Products, did they? A. No, sir—not at the time of our formal discussion. However, Technical Tape was mentioned on many discussions during informal sales meetings between Mr. Del Styre, Mr. Benson and Mr. Holden and Mr. Christensen.

Q. Did you ever send out letters to your customers with statements to the effect that you have no salesmen and this saving of salary is passed on to you, meaning the customer? A. To my knowledge, no letter ever went out over my signature, or any letter authorized, went out in the name of Aviation Service Supply Company.

Q. No authorized letter? A. That is right—I don't know what letters may have gone out. I know I didn't sign any.

Q. It is possible that they did. A. Oh, certainly, it is possible. We did not authorize it, and to my knowledge no letters went out.

Q. With regard to Christensen Exhibits 7 and 8 how come you directed a copy of that letter, or the letter itself to Technical Tape?

Mr. Kipnis: Will you show it to the witness?
Mr. Hofeldt: Yes.

A. I did so at his request.

Q. They solicited this information from you? A. Yes, sir.

Q. Did you previously inform them of this incident? A. Very much so.

Q. Did you feel obliged to report that to them? A. Yes, sir.

Q. You have indicated that you were discontented with Minnesota Mining thruout the period of your distributorship; is that correct? A. It wasn't all that was to be desired.

Q. So you were unhappy with them? A. We were not satisfied with the sales cooperation being given us by Minnesota Mining & Manufacturing Company.

Q. Did this have any effect upon your efforts in behalf of Minnesota Mining? A. Subconsciously it probably did.

Q. It had an effect too on your sales of Minnesota Mining products, did it not, by means of your discontent? A. We promote the products of the company that we represent for a profit, and try not to leave our personal feelings enter into the advisability of handling a particular product.

Q. That did not decrease your efforts at all on behalf of Minnesota Mining—your discontent? A. Subconsciously it undoubtedly did.

Q. Undoubtedly did? A. Subconsciously it undoubtedly would have that effect.

Q. It did have an effect? A. We would not know, because we do not have a basis to compare it with.

Q. You have been completely satisfied with Tuck representation, have you? A. Definitely not.

Q. You have not been? A. No, sir.

Q. You submitted an affidavit dated 25th day of May 1954; was that affidavit solicited by any representative of Technical Tape Corporation? A. I believe so.

Q. Do you remember who it was? A. Not the name.

Q. What was his position? A. I do not recall.

Q. Was he an attorney? A. I believe he was.

Q. Did he draft this affidavit? A. Yes, sir.

Q. And you signed it? A. Yes, sir.

Q. What is your estimation of an adequate stock of supply of products such as Tape products of a company

for which you are an authorized representative, or distributor, rather? A. That would be predicated upon the number of customers and the amount of inventory required to service those accounts.

Q. Now specifically as to tape products do you have an estimate? A. It is possible that, to use an illustration, that $500 in inventory would be an excess of inventory that you were not obtaining a sufficient volume of sales. Conversely, it is possible that a $10,000 inventory would be inadequate to service an area where a sales volume in excess was being obtained.

Q. Did you have your salesmen meet with representatives of Minnesota Mining? A. Yes.

Q. How many occasions? A. Formal, one sales meeting as I recall. But on many occasions informally I had a routine visit of their sales representative.

Q. Only one formal one? A. Yes.

Q. Now you have testified at various times as to opinions as to motives of Minnesota Mining representative methods; those were merely opinions? A. If I stated they were opinions I assume they were mine.

Q. And yourself only; do you keep records of your phone conversations? A. No, sir.

Q. You have no record of the various conversations on the phone with Del Styers? A. I have no specific records, no.

Q. Only from recollection? A. That is correct.

Q. Did Minnesota Mining representatives ever express dissatisfaction with the amount of goods sold? A. Definitely, yes.

Q. Did they express any dissatisfaction with your cooperation as to sales meetings with your sales personnel? A. They were not in the form of dissatisfaction so much as they were in urging pressure to our office to sell more of their products.

Testimony of Paul Christensen—Redirect

Q. Were they dissatisfied, or did they express their dissatisfaction as to the volume of sales of Minnesota Mining products? A. They were dissatisfied with the volume they were obtaining.

Q. Did they express dissatisfaction as to your promptness or lack of it in paying your bills owing to Minnesota Mining? A. I do not recall anything other than the routine followup regarding payment of accounts.

Q. They never called on you and expressed dissatisfaction in that regard? A. I believe my original answer will suffice.

Q. You won't answer the question? A. Repeat the question, please.

Mr. Hofeldt: Will you read the question back to him?

(Question read.)

A. They called on various occasions regarding payment of certain invoices, and as to reason why we may be withholding payment. However, I do not recall any particular problem or dissatisfaction concerning the manner of payment.

Q. But were those calls on account of that—concerning payment? A. Yes, there were calls concerning payment.

Q. Did any of the Minnesota Mining representatives who called on you make any statement to the effect that their complaint against you was that you were not performing the function which was expected of one of their jobbers? A. I believe that that was part of the conversation.

Mr. Hofeldt: I believe that is all.

Redirect Examination

Q. When were those statements made to you; was it before or after you took the Tuck tape, that you were not

performing the function which was expected of their jobber? A. I do not recall the particular time. I interpreted those comments as the usual sales effort to obtain a greater volume of business.

Q. Now, Mr. Christensen, did the Minnesota Mining & Manufacturing Company give your company a fair chance to act as distributor for their products? A. No.

Q. Why do you say No? A. The action taken by Minnesota Mining & Manufacturing Company to discontinue our distributorship arrangement was taken before sufficient merchandise had been received and enough time elapsed to properly promote and develop new accounts on their products.

Q. You said on cross-examination that your purchases exceeded the billing of Minnesota Mining Company; is that correct? A. We had several purchase orders that were never shipped.

Q. And that failure to ship occurred, did it not, pretty soon after you became a distributor—or not long after you became a distributor? A. Yes.

Q. Now you spoke of volume of business you did in Tuck purchases, and you mentioned approximately three to four thousand dollars per month? Does that include masking tape as well as cellophane tape? A. Yes.

Q. You said that representatives of Minnesota Mining & Manufacturing Company talked to you about prices. Tell us what they said to you about prices, as nearly as you can, for their product. A. They were very explicit in instructing us that we must conform to all prices and terms sold on their authorized or published price sheets.

Q. Did they tell you what would happen if you did not sell at the prices fixed by Minnesota Mining & Manufacturing Company? A. They said that if we were to remain a distributor we must conform to their published prices.

Q. Mr. Hofeldt asked you to dial Florida 5-6909, and you dialed that number. Did you find out whether that

number was listed in the name of your company? A. It is not listed in the name of our company. It is not listed in the name of our company by our own knowledge. However, you will recall I turned that call over to Mr.—the receiver, over to Mr. Hofeldt.

Q. I just have one question. Mr. Hofeldt referred to your letters Christensen Exhibits 1 and 2. I call your attention to statement you make in Christensen Exhibit 1, reading as follows, "The understandings you have outlined in this letter are such as we arrived at orally and are entirely in agreement with our thinking in the matter."

Now I call your attention to Christensen Exhibit 2 and I refer you to paragraph 3 thereof, which is the letter to which Christensen Exhibit 1 was a reply, is that where the understanding was mentioned, and is that to what you referred?

> Mr. Hofeldt: I object to that question. These exhibits speak for themselves. They are exhibits that you introduced.
>
> Mr. Kipnis: I am asking the witness if the understanding outlined—
>
> Mr. Hofeldt: You are asking his interpretation of that letter, and I object to it. Those letters speak for themselves, and they are your exhibits.

Q. You may answer the question. A. They generally outline and include the majority of the subjects agreed upon.

Q. My point is that that is the only place in the letter wherein the understandings are set forth; is that right?

> Mr. Hofeldt: I object to that. That question certainly should not be answered. Those letters speak for themselves, and you know it.

Q. You may answer the question. A. The third paragraph is the only place to my knowledge where our understandings are outlined in writing.

Mr. Kipnis: That is all. No further questions.

Recross-Examination

Q. Referring to Christensen Exhibit 2, I want you to read into the record the sentence in paragraph number 3 beginning with the words "Secondly" and continue on to the word overlap. A. What paragraph are you referring to?

Q. It is the third paragraph, starts with the word Secondly. A. "Secondly, on our line of Automotive adhesives, you desired to handle 3M products exclusively with the minor exceptions of where the B. F. Goodrich line and 3M overlap."

Q. Now does Tuck Tape have a schedule of prices? A. Yes sir.

Q. Does Industrial Tape have a schedule of prices? A. Yes sir.

Q. Do you follow them? A. No sir.

Q. Did you follow Minnesota Mining schedule of prices? A. We did.

Q. Without exception? A. With possible exception of an error.

Q. There is a possibility that you did not? A. Yes sir.

Q. To your knowledge was there ever a Technical Tape Corporation office here in Stapleton field? A. I don't know what you would consider an office.

Q. An office with a telephone. A. We make our facilities to the phone and encourage the use of our premises as Technical Tape representatives headquarters.

Q. Do you receive any compensation for that? A. No sir.

Q. This Florida 8909 number, is that a number of a phone in this office? A. No sir.

Q. You are positive? A. That is right.

Mr. Kipnis: My understanding on the record, you proved it.

Mr. Hofeldt: May I say on the record I don't know if I proved it or not. I don't know who may have been answering the phone on the other end.

The Witness: Telephone answering service—I assume that that is. If we want to call Mr. Sigmeyer we call Florida 8909 in the same manner you did.

Q. Is that telephone answering service here on the field? A. I don't know whe e it is. I don't believe it is on the field.

Q. Have you ever received any packages thru the mail addressed to Technical Tape Corporation, Stapleton Field, Denver, Colorado? A. I don't believe we ever have. However, if we did we would accept it and we would hold them for the representative, and try to contact him and advise him that they were here.

Q. Did you ever receive any air express packages so directed? A. I do not recall a specific instance. It is quite possible.

Q. Do you know whether the central office of this airport, which I understand is city owned, has a listing for Technical Tape Corporation here? A. I wouldn't know of my own knowledge.

Q. Do you know that when they wish to reach that company they call this office? A. I do not know what occasion they would have to call, but it is perfectly possible that they would.

Q. It is perfectly possible that they would? A. That is right—possible. However, I know of no reason why they

would have occasion to call us for the Technical Tape other than they know we handle their products and would like to have us in contact with the customer phoning.

Q. That is the central office now in the airfield that we are talking about? A. We get calls for many people where the airport office has advised the customer that we handle, or should normally be point of contact for their inquiry.

Q. How do you know what they advise? A. From the customers informing us that the airport said we handle certain items.

Q. The customers call the airport here to get Technical Tape Corporation; is that correct? A. No sir.

Q. They do not? A. No sir. But the airport may advise the customer inquiring of Technical Tape or any other product which they know we handle where to contact us.

Q. Isn't it a little unusual for a customer to contact the airport to get products? A. If they aren't—

Q. Or any other? A. It would be the exception. Most phone calls are placed directly, or phone service to our company office.

Q. But you do get some for Technical Tape Corporation? A. No sir—pardon, correction. They would be the exception. However, it is quite possible that customers might call us, and we encourage them to think of us as the Technical Tape source of supply for this area.

Q. Now you read out of page 45 of your current telephone book that Technical Tape Corporation is advertised as having an office at Stapleton airfield; isn't that correct? A. Yes sir.

Q. And the phone number listed there isn't that of any place in this air base; isn't that correct? A. I believe that to be the fact.

Q. So they must be incorrect in their listing in the telephone book; is that ct? A. You would have to contact them. I did not place it in the phone book.

Christensen Deposition Exhibit 1

Mr. Kipnis: You had nothing to do with that listing?

A. That is correct, I had nothing to do with the listing.

Mr. Kipnis: I offer in evidence the letters, Christensen Exhibits 1 to 8 inclusive.

Mr. Hofeldt: Objected to on the ground that they are immaterial and irrelevant to any issue, anything pending between the parties.

Christensen Deposition Exhibit 1

September 28, 1953

Minnesota Mining & Manufacturing Company
367 Grove Street
St. Paul 1, Minnesota

Attention: Mr. W. H. Benson, Sales Mgr,
St. Paul Branch Sales

Gentlemen:

Thank you for your nice letter of September 25th confirming the subject discussed on your recent visit. The understandings you have outlined in this letter are such as we arrived at orally and are entirely in agreement with our thinking in the matter.

We see no reason why we should not be able to gradually build our stock and enjoy a nice volume of business with Minnesota Mining and Manufacturing Company products.

Yours very truly,

AVIATION SERVICE SUPPLY COMPANY
PAUL J. CHRISTENSEN

PJC:me

Christensen Deposition Exhibit 2

(Letterhead of
Minnesota Mining & Manufacturing Company)

September 25, 1953

(Dic. 9-24-53)

Aviation Service Supply Company
Stapleton Airfield
Denver, Colorado

Attention: Mr. Paul Christianson
Sales Manager

Dear Paul:

First, let me say thanks for both Dick Fitz-Gerald and me for your interest in handling 3M products, as well as the time you spent with us last week.

We are going through the necessary formalities here prior to the final decision on your request for a jobbing arrangement on our abrasives, automotive adhesives and masking tape products. Before a final decision is reached, we would like to confirm our discussion of last Friday to make sure that we are in full agreement.

These were the understandings we reached together: First, on abrasives, you agreed to handle only 3M Coated Abrasive items. This, of course, does not apply to grinding wheels since we don't have a line of grinding wheels. Secondly, on our line of Automotive Adhesives, you desired to handle 3M products exclusively with the minor exceptions of where the B. F. Goodrich line and 3M overlap. Third, on Masking Tape items you wanted the 3M line, but for the time being you also felt it necessary to retain the Industrial Tape line which you have been handling.

Christensen Deposition Exhibit 3

If your thoughs on the subject agree with ours, I'd appreciate your advising me at once so that we can go ahead with our recommendations.

Best personal regards.

Yours very truly,

(Signed) WALLY
W. H. Benson
Sales Manager
St. Paul Branch Sales

Christensen Deposition Exhibit 3

COPY

March 5, 1954

Minnesota Mining & Mfg. Co.
900 Fauquier Ave.
St. Paul 6, Minn.

Attn: Sales Dept.

Gentlemen:

Your Mr. Benson and Holden, during a visit to our office on March 3rd, advised us that because of our handling competitive products of other manufacturers, they did not believe we could give your company the proper support and that therefor, it was necessary for him to advise us that your company no longer considered us as your distributors and therefor, are unable to make any further shipments.

Mr. Benson stated that we may return our present inventory to the factory. Attached is a copy of the packing ticket covering the material which is being returned by truck, collect, today.

Christensen Deposition Exhibit 3

We did not return any of the Scotch Electrical Tape of Adhesives, as we were advised yesterday by your representative from Kansas City that any action taken by Mr. Benson and Holden concerned the industrial and abrasive division only; and that he was not aware of any reason why the adhesive division would not accept our orders.

Will you please advise us at once, if you will continue to accept orders for Electrical Tape and Adhesives.

We were looking forward to eventually enjoying a nice business on Minnesota Mining & Mfg. products; and are sorry that you found it necessary to discontinue selling us because of the competitive products which we handle. I might mention that your competitors had no objection to us handling your products when they appointed us their distributors.

Yours very truly,

AVIATION SERVICE SUPPLY COMPANY
PAUL J. CHRISTENSEN

PJC:fn

Christensen Deposition Exhibit 4

COPY

March 15, 1954

Mr. Paul J. Christensen
Aviation Service Supply Co.
Stapleton Airfield
Denver Colorado

Dear Mr. Christensen:

Your letter concerning Mr. Benson's visit has been forwarded to me to answer on behalf of the Electrical Tape Division.

Mr. Benson was acting as a representative of the St. Paul Branch Sales Dept. and was authorized to speak for "SCOTCH" Brand Electrical Tapes.

We are sorry that we cannot work closely with your organization, but circumstances are such that in the interest of good business we do not consider this advisable. Let, me, personally, extend my sincere wishes for your continued success.

Yours very truly,

J. T. DONAHUE
Sales Mgr.
Electrical Products Division

Christensen Deposition Exhibit 5

COPY

March 17, 1954

Aviation Service Supply Co.
Denver, Colorado

Subject: Returned Goods Memo #22288
Dated March 5

Gentlemen:

The subject return included two items consisting of quantities less that those established as a minimum shipping carton. The items are 39 cones Grit 50XHD Three M Ite Cloth 3-17/32" x 3" x 2" and 13 Evenrun Bands Grit 30XHD Three M Ite Cloth 2" x 2". Such items cannot be accepted for credit, and therefore are being returned to you prepaid.

The balance of your return has been accepted. An adjustment is being processed to allow you 90% credit for all the items with the exception of the #880 Fillament Tape.

Our credit memo will be forwarded in the near future.

Yours very truly,

L. R. Kastner
St. Paul Branch Sales Dept.

Christensen Deposition Exhibit 6

COPY

March 26, 1954

Minnesota Mining & Mfg. Co.
St. Paul Branch
367 Grove St.
St. Paul 1, Minn.

Attn: Sales & Accounting Dept.

Gentlemen:

Enclosed is our debit memorandum in the amount of $301.80 covering the return of the portion of your merchandise per authority of your Mr. Benson & Holden during their visit of March 3rd and confirmed in my letter of March 5th.

At the time your Mr. Benson advised us that we were being cut off as an authorized distributor of your company and that your firm would no longer sell us and that we could return any of the merchandise of your manufacturer that we had stocked, for credit, no mention was made regarding any 25% service or handling charge. Since this action was taken by you, for your convenience, we naturally assumed that full credit would be allowed.

We could have readily sold any of this filliment tape and other items which we returned for credit to customers in the Denver area at our cost or slightly above. However, since we knew it was your company policy to try to protect your distributors against price cutting we felt that the ethical procedure would be to give you the option of picking up your merchandise.

Christensen Deposition Exhibit 7

Will you please issue us your revised credit memorandum for $301.80. We wish to thank you for past favors you have rendered our company and wish to express our regrets for the circumstances which had made this necessary.

Yours very truly,

AVIATION SERVICE SUPPLY CO.
PAUL J. CHRISTENSEN

Christensen Deposition Exhibit 7

March 26, 1954

Technical Tape Corp.
611 South Flower St.
Burbank, Calif.

Attn: Milton Stohl

Gentlemen:

For your information, I am relating in this letter, the details and manner in which the Minnesota Mining & Mfg. Co. canceled our distributor agreement with them and refuses to sell our company because of our handling the products of Technical Tape Co.

For reasons which I am not aware of, the Minnesota Mining & Mfg. Co. objected to our handling your products, in particular, because we had represented the Industrial Tape Co. of New Brunswick, New Jersey many years before becoming appointed a distributor for Minnesota Min-

Christensen Deposition Exhibit 7

ing & Mfg. Co. They had no objection to our handling their products during the time we were a distributor for the Minnesota Mining & Mfg. Co.

During the months of January and February of 1954, we were experiencing difficulty in obtaining shipments on our open orders with the Minnesota Mining & Mfg. Co. and they were dilatory in replying to our correspondence and answering our telegrams. On March 23rd, Mr. Holden and Mr. Benson of the Minnesota Mining & Mfg. Co. visited my office and advised me that they had been instructed by the home office to cancel our distributor agreement because "of our activity with competing lines, they did not believe that we could give their company the proper representation and co-operation." In general conversation during this meeting, there was no question but what this action was because of our handling Technical Tape Co. products. Before advising me that our distributor agreement was canceled, considerable sales pressure and arguments were made in an effort to force us to discontinue handling Technical Tape Co. products.

I am enclosing a copy of our letter of March 5th to the Minnesota Mining & Mfg. Co., a copy of their letter of March 15th to us in reply, and a copy of their letter of March 17th concerning credit on return merchandise and a copy of my letter to them dated March 26th. You may use these letters in any way you see fit and we will be very happy to provide additional testimony or assist you in any way in your attempt to break the monopoly and sales policy of Minnesota Mining & Mfg. Co. which we feel is unethical, unfair advantage, in restrain of trade, and not the American way of doing business.

I might mention that I am certainly happy that your company is now giving the Minnesota Mining & Mfg. Co. some competition. They have been an extremely arrogant

and high handed company in their past policies. In recent discussions of the Minnesota Mining & Mfg. Co. sales policies with other jobbers in this area, I am advised that they are using the same tactics as applied to us.

Yours very truly,

AVIATION SERVICE SUPPLY COMPANY
PAUL J. CHRISTENSEN

PJC:fn

Enclosures:

1. Aviations letter of Mar. 5
2. Minn. Min. & Mfg. letter of Mar. 15
3. Minn. Min. & Mfg. letter of Mar. 17
4. Debit Memorandum

• • •

Direct Deposition Testimony of Seymour Rosenblatt, Cleveland Distributor, called by Technical

[Record pp. 2078-2093]

"Q. Will you please state your full name? A. Seymour H. Rosenblatt.

"Q. Mr. Rosenblatt, where do you reside? A. 24103 East Baintree Road, Beachwood Village 21, Ohio.

"Q. How old are you? A. Thirty-one.

"Q. And what is your business, Mr. Rosenblatt? A. Office supplies and equipment.

"Q. With what company are you connected? A. Anchor Office Supply Company.

Testimony of Seymour Rosenblatt, Cleveland Distributor

"Q. And is that located in Cleveland, Ohio? A. Yes, sir.

"Q. At 1628 St. Clair Avenue? A. Right.

"Q. And do you hold an office with that company? A. Yes.

"Q. Are you President of the company? A. I am President of the company.

"Q. How long have you been President? A. A little over four years.

"Q. When was the company organized? A. June 15, 1950.

"Q. And you have been President since then? A. Ever since; yes.

"Q. What is the business of Anchor Office Supply Company? A. Supplying office supplies and equipment to various industrial concerns in the City of Cleveland and outlying districts.

"Q. Among the items that you sell, do you sell tape? A. Yes.

"Q. Have you been selling tape ever since you started in business? A. Yes.

"Q. What type of tape do you sell? Do you sell masking tape? A. We sell sealing tape, masking tape, drafting tape, acetate fiber tape, cellophane tape, gum tape, cloth mending tape and so forth.

"Q. Whose brand of tape have you been handling since you started in business? A. Whose brand since I started in business?

"I have handled Minnesota Mining, some TEXCEL tape —I think that is a trade name—and some Tuck tape.

"Q. Have you been selling Minnesota Mining and Manufacturing Company's tapes continuously since you started in business? A. Yes, sir.

"Q. And approximately how much have you purchased from Minnesota Mining per year? A. I can't say exactly without the books. I know that today we wrote a check for around $900.

Testimony of Seymour Rosenblatt, Cleveland Distributor

"Q. Would you say that that would be a fair average? A. Approximately."

* * *

"Q. The average would be about $12,000? A. Approximately.

"Q. A year? A. Yes."

* * *

"A (Continuing) You understand that is just my memory.

"Q. What is the largest portion of it? What portion of it is masking tape and what portion is cellophane tape? A. I would say that cellophane tape is seventy-five per cent. The other twenty-five per cent is masking.

"Q. Have you also sold Tuck brand cellophane tape? A. Only upon request of a customer or upon open bid.

"Q. Did you start selling Tuck cellophane tape in 1952 or thereabouts? A. No; it was a little later than that."

* * *

"Q. Would you say it was in the Spring or Summer of 1952? A. No; I couldn't say. I would have to check the records at the office.

"Q. You gave an affidavit in the suit pending in New York. I have the original here. I borrowed it from the New York Court. I would like to show it to you and ask you if your name appears on it and you recognize your affidavit. Does this affidavit bear your name and signature? A. Yes.

"Q. And this was borrowed from the Court. A. What do you want me to say?

"Q. Tell me whether or not that bears your signature. Is that your signature? A. Yes; that is my signature."

* * *

"Q. Look at the top of page 2, if you will. Just to refresh your recollection, you stated in that affidavit that you began selling Tuck tape about the Spring or Summer of

1952? A. Yes. I might also mention that we did not buy direct from the Technical Tape Corporation in New York. We bought through the Biddle Purchasing Company.

"Q. Through whom? A. Biddle Purchasing Company.

"Q. Is that name spelled B-i-d-d-l-e? A. Yes; of New York City. 250 Chambers Street, New York, New York.

"Q. During the month of April of 1954, were you requested to submit a bid to the City of Cleveland on cellophane tape? A. I was not requested. It was on my own initiative. We heard that the City was in the market for cellophane or scotch tape. However, the City of Cleveland cannot specify any brand. It is only—how shall I say it?

"Q. Generically used? A. Yes; more or less; that is right. I guess there is a clause in there that others may be substituted.

"Q. You learned that the City of Cleveland was in the market for cellophane tape; is that right? A. That is right.

"Q. And then did you submit a bid or an offer to supply at that time? A. Yes.

"Q. Whose brand of tape did you offer in that bid? A. This particular bid, we offered Tuck tape.

"Q. And were you awarded a contract on that bid? A. We were awarded the contract.

"Q. And then you filled the order? A. Yes. But it was returned to us.

"Q. The tape was returned to you? A. That is right.

"Q. You didn't say that at the time that you gave me the affidavit? A. No. We have since picked up the tape on it. That was because the dispensers were no good, wouldn't tear off. We have papers at Tuck Tape where we returned it for full credit.

"Q. After you were awarded that contract, did a Mr. Harry Howard call on you? A. That is right; our salesman.

"Q. He is your regular salesman? A. Regular salesman.

Testimony of Seymour Rosenblatt, Cleveland Distributor

"Q. Representing whom? A. Minnesota Mining.

"Q. And he has been calling regularly on your company? A. Yes.

"Q. Did someone else accompany him on that call? A. Yes; Mr. Groth.

"Q. Mr. Harold F. Groth? A. Yes.

"Q. Were you introduced to Mr. Groth by Mr. Howard? A. I had known Harold Groth for quite some time.

"Q. It wasn't necessary to introduce Mr. Groth to you because you had known Mr. Groth? A. I had known Mr. Groth for a long time.

"Q. What is Mr. Groth's position with Minnesota Mining? A. As far as I know, he heads up their Tape Department here in Cleveland. As far as I know, he is Mr. Howard's boss or superior.

"Q. When did they call on you with respect to the time that you got the contract? A. It was approximately five or six days afterwards.

"Q. Was it in April of 1954, or thereabouts? A. Yes.

"Q. And where did they call on you? A. At my establishment.

"Q. That is at your office or place of business at 1628 St. Clair Avenue? A. That is right.

"Q. Who was present at the time that they called on you? A. Mr. Groth, Mr. Howard, myself, my partner and my usual office force.

"Q. What is your partner's name? A. My partner's name is Mr. Sumph.

"Q. Spelled how? A. S-u-m-p-h.

"Q. What is his first name? A. Paul.

"Q. At that time, was there some conversation between you, Mr. Howard and Mr. Groth relative to the fact that you supplied Tuck tape to the City of Cleveland?"

• • •

Testimony of Seymour Rosenblatt, Cleveland Distributor

"Q. Will you answer the question? A. They, Mr. Howard and Mr. Groth, came in after they found out—I mean, of course, that the City records are open because there is clean bidding down there, and at any time and any place anyone can see who bid and who received the order, and so forth. They explained to me that they understood that I supplied Tuck tape. To which I answered, 'Yes; I did.' However, I did not tell them that it had been returned. They wanted to know why I supplied Tuck tape, at which time I explained to them that previously other vendors in the Cleveland area had bid on Tuck tape. Two or three orders before that I had received the award on Minnesota Mining tape. So, to keep myself in business, since I am in business to make money, I then submitted Tuck tape because of the price differential.

"At that time, they told me very flatly that if I continued to sell Tuck tape they will be forced to take the line away from me; at which time I said, 'We will pack your product up and return it to you.'

"I said, 'No one comes in here and tells me how to run my business; what I should buy and what I shouldn't buy. As long as we pay our bills and adhere to your price schedule, which we have always done, and we have given you a fairly decent volume of business, I must protect myself, as far as making money for my business and for my company.'

"At this particular incident, if I bid on Minnesota Mining tape, I knew I wouldn't have gotten the order, and I just told them very flatly if they saw fit to discourage the sale of Tuck tape by the other dealers, I will not sell Tuck tape. I also mentioned to them that Tuck tape is not on our shelf and never has been on our shelf. It is only used for bid purposes.

"Q. At that time, did Mr. Howard state to you, 'If you continue to sell Tuck brand tape, we will have to quit doing business with you and we will cut you off completely as we did a big jobber in Pittsburgh'? A. Yes, sir.

Testimony of Seymour Rosenblatt, Cleveland Distributor

"Q. And did Mr. Groth approve that statement? A. That is right. He agreed with it.

"Q. Do you recall whether or not while they were there and in their presence you telephoned the Department of Justice? A. I surely did.

"Q. And what did you tell the Department of Justice? A. Exactly what I just stated to you. I told them the whole story and that I didn't think they should tell me what merchandise I can or can't sell, as long as it isn't a franchise type of supply. After all, we have given them good coverage and have been a very loyal account of theirs. I saw no reason for a few awards that slip by they should blow their top.

"Q. After you finished talking to the Department of Justice, did you tell Messrs. Howard and Groth that you would quit selling Tuck brand tape? A. No.

"Q. You did not? A. I told them that when occasions arise where my competitors, who are also Minnesota Mining dealers, bid Tuck tape and where the customer suggests that we furnish them Tuck tape I will continue to service them with Tuck tape. However, as far as we are concerned, Minnesota Mining tape is better, better advertised, a better product and easier to sell. So, we are not going to quit our efforts to merchandise it and keep several lines of tape on the shelf because we have too many other items to contend with.

"Q. Since then, have you continued to buy both lines? A. No; I have continued to buy only one. We have bought only one or two purchases of Tuck tape, one of which was for one of the county agencies and I believe that one went into one of the city agencies. It was strictly a sealed bid proposition where price would get the order. We do that in county and city bidding.

"Q. I show you a document which I will ask the Notary to mark 'Rosenblatt Exhibit 1.' I will ask you to identify

it, if you can. I will ask tha it be marked before I show it to you. Then I will let Mr. Hofeldt see it.

"(Marked 'Rosenblatt Exhibit 1.')"

Now that, your Honor, is the Department of Justice letter that is attached to the affidavit of Mr. Rosenblatt, which is now part of Exhibit 44, and that reads this way. It is on the Department of Justice, Antitrust Division letterhead, United States Court House, Foley Square, New York 7, N. Y.

"In reply refer to JBLeddy: CLM60-30-15"

It is addressed to the Anchor Office Supply Company, 1628 St. Clair Avenue, Cleveland, Ohio, and is dated April 7, 1954, attention of Mr. Seymour H. Rosenblatt.

"Gentlemen:

"In connection with an investigation by this Department of the alleged violations of the Federal Antitrust Laws, it is requested that you make available for examination by the bearer, an agent of the Federal Bureau of Investigation, such of your files as he may request.

"Your cooperation in this investigation will be very much appreciated.

"Sincerely yours,

"Stanley N. Barnes, Assistant Attorney General, by Richard O'Donnell, Chief of New York Office."

Now to continue with the reading of the deposition:

"Q. Will you tell us what that is? A. This was brought to us by an examiner of the Department of Justice, Antitrust Division.

Cross-Examination of C. C. Smith, Minnesota's Cellophane Tape Manager

"Q. Did you receive that in reply to the complaint you related a moment ago? A. Yes.

* * *

[Record p. 2093]

"Q. What was your reason for not wanting to testify in this case? A. I do not want to get involved in these cases; I certainly don't want to be put in the middle; I certainly don't want to lose the Minnesota Mining line or any line that I am handling. We are engaged in the sale of merchandise and—

"Q. After you gave an affidavit in this case, did anybody representing Minnesota Mining & Manufacturing Company talk to you about this case? A. No. As a matter of fact, we have gotten top service.

"Q. Have they treated you much better since then? A. Yes; I have no kicks against Minnesota Mining & Manufacturing as far as service and so forth goes.

* * *

Cross-Examination of C. C. Smith, Minnesota's Cellophane Tape Manager

[Record pp. 3937-8]

Q. Now, what did you understand I meant by substituting or palming off? A. I understood that to mean that upon the order of a customer for Scotch Brand Cellophane Tape the order was not filled as specified.

Q. Without the knowledge of the customer, is that what you mean? A. With or without.

Q. So 3M's complaint is that they don't want a competitor to push—rather they don't want the distributor to push a competitor's tape ahead of 3M tape? A. Not at the expense of 3M tape, no.

Q. Not even if the customer says "It is all right. I will take it"? A. I did not say that, Mr. Morris.

Cross-Examination of C. C. Smith, Minnesota's Cellophane Tape Manager

Q. I am asking you that. A. I said that when a distributor on an order for Scotch Brand Tape goes to the customer and says, "I can give you Scotch Brand if you want it, but I will give you a tape which is just as good and at a cheaper price," I consider that unfair, and I would certainly not cooperate very long with that type of distributor.

Q. And you would cut him off? A. I think I would, yes.

* * *

[Record pp. 3927-29]

Q. Well, all right. You have talked about, let us say, that some of the dealers or distributors substituted tape made by some other company? A. Some other manufacturer, yes.

Q. When the customer called for Scotch tape? A. That's right.

Q. Did the customer in those instances call for Scotch tape or Scotch Brand Tape? A. I wouldn't be sure of that.

Q. Now you don't know, either, whether those substitutions, as you call them, were with the consent of the customer, do you? A. No, sir.

Q. You remember also that in connection with this Anchor Office Supply Company—well, let us go back for a moment on that same company. There drop shipments were made, the ones you knew about, the ones that were discussed, were made to a lunchroom or a candy store or something nearby, weren't they? A. I don't recall that.

Q. You don't know that? A. No.

Q. How did you know that they were cheating? Where did you get that information from? A. It was reported to me by our Cleveland sales manager.

Q. And he simply reported that there were drop shipments which were not legitimate drop shipments? A. That's correct.

Q. He didn't tell you where they were made? A. I didn't bother to ask; I didn't think it was necessary.

Q. He didn't tell you where they were made? A. No, sir.

* * *

Direct Testimony of C. L. Arnold, a Pawtucket Jobber, called by Technical

[Record pp. 2813-14]

The Witness: Well, in both ways. I mean we act as salesman for ourselves, but we are also selling the product for the people who are going to use it, but the policy of tape has always been, as long as I ever sold it, anyway, that large users of tape were given preference. In other words, they would drop ship the tape to the customer at no additional cost to the jobber. In other words, you weren't billed for any freight or anything; plus the fact that in some cases there was a larger discount given to the jobber if the tape was drop shipped to the customer, one reason for that being that somewhere along the line if I ordered a large quantity of tape I could get a larger discount on it, to their insurance, which you probably can't blame them for, so that if they drop-shipped these larger quantities of tape directly to the customer, and then they give you a bigger discount, that you wouldn't try and finagle around to get the larger discount and then ship it to the customer yourself, although they may think you weren't going to ship it to the customer but try to pick up the extra discount which they allowed on drop shipments. That was the main purpose for it. And as far as—

* * *

Direct Testimony of Richard Drew, the Alleged Inventor of Drew II, called by Technical as Hostile Witness

[Record pp. 1976-7]

Q. Now, Mr. Drew, in your work that you did on pressure-sensitive adhesive prior to the filing of the application for the patent in suit, you were concerned with what was essentially a rubber-resin adhesive, weren't you? A. Rubber-resin pressure-sensitive adhesive, yes, sir.

Q. That is, you were concerned with making adhesives from rubber as one ingredient and resin as another ingredient? A. Yes.

Q. And that was all that you were concerned with; that is, as far as the base and the tack-producing elements are concerned, you were concerned only with the use of rubber and the use of resin? A. That is all I had to work with. That is all I knew anything about.

Q. That is all you knew anything about? A. Yes.

Q. You were not thinking about using a synthetic resin or synthetic resins without any rubber? A. No, sir.

Q. Or any rubber without any resin? A. Not to my knowledge, no, sir.

* * *

Cross-Examination of Tierney, Minnesota's Vice-President and Expert Witness

[Record p. 503]

* * *

Q. What I want to know is whether where Drew says "which are either non-fibrous or are coated with non-fibrous films," such as varnish, lacquers and so forth, I want to know whether a piece of thin, normal thin tissue paper, which has its surfaces completely coated with varnish, for instance, or a lacquer, comes within the purview of that latter part of that sentence where he is referring to the non-fibrous films. A. Again I repeat, I don't know for sure what the exact thing it was he had in mind at that particular section. But if such a tissue paper were coated in the manner you describe, in such a way as to leave a non-fibrous film coating over the tissue paper on both sides, then such a product would certainly fall within and satisfy the terminology of this particular section of the patent.

* * *

[Record pp. 507, 508]

Q. Now I have to go back to that same expression you have been talking about because we got off that.

I asked you about tissue paper which was coated with varnish, and we disposed of that.

Now would glassine paper, both surfaces of which are completely, absolutely covered with varnish or lacquer, come within this expression that we have been talking about, which is "or are coated with non-fibrous films such as varnish"? A. Yes, it might.

Q. Well, in your opinion, as one having experience in this art, does it or doesn't it? A. Yes.

Cross-Examination of Minnesota's Witness, Edward C. Lake, a duPont Salesman

[Record pp. 984-985]

* * *

Q. I hand you Plaintiff's Exhibit 100 for identification and ask you if you can identify that as a photostat of a du Pont price list on cellophane, dated December 16, 1935. A. I think that is correct.

Q. And I call your attention, sir, to the chart on the righthand side of the first page. Now that shows you, Mr. Lake, does it not, a steady and almost precipitous decline in the price of cellophane made by du Pont, both normal or plain cellophane and moisture-proof cellophane, from the time of their introduction until 1935? A. It is supposed to.

Q. And the chart shows a steady decline, does it not, in the price of cellophane? A. I think that is right.

Q. Almost a straight downward line, is it not? A. It is not a straight line.

Q. Mighty close to it. A. Apparently close to it. I could draw a straighter one.

* * *

Direct Examination of Ralph C. Schilly, a duPont Chemist, called by Technical

[Record p. 2291]

Q. Approximately what was the differential between cellophane and paper at this 1928 period? A. In 1928 I think it was around maybe a little less than, probably less, $2 a pound by 1928; I may be wrong.

Q. What was paper selling at? A. Whereas paper may have been in the neighborhood of 12 to 14 cents, something in that range.

* * *

Colloquy of Counsel for Technical and Minnesota

[Record pp. 2456-58]

• • •

Mr. Spille: "* * * I take it, Mr. Haight, that you are not telling the Court now that we should leave out Examples A and B from this patent.

Mr. Haight: Well, just a minute, Mr. Spille. You can't leave them out because they are specifically there, but I certainly will advise this Court that Examples A and B are not covered by any of the claims.

• • •

Mr. Spille: I am going to be very clear about this, or I want to be very clear on it. Does this mean, Mr. Haight, that Examples A and B which are supposedly pressure-sensitive adhesives of rubber and resin, when applied to cellophane, or any other non-fibrous film backings, whatever their inherent characteristics may be, are not part of Drew's alleged invention?

• • •

Mr. Haight: All right. Certainly that is part of his invention, if you are going to use invention in the broad sense, yes" (Record pp. 2456-58).

Technical's Exhibit 18

Drew U. S. Patent 1,760,820.

(See opposite ☛)

Technical's Exhibit 18

May 27, 1930. R. G. DREW 1,760,820

ADHESIVE TAPE

Filed May 28, 1928

Fig. 1

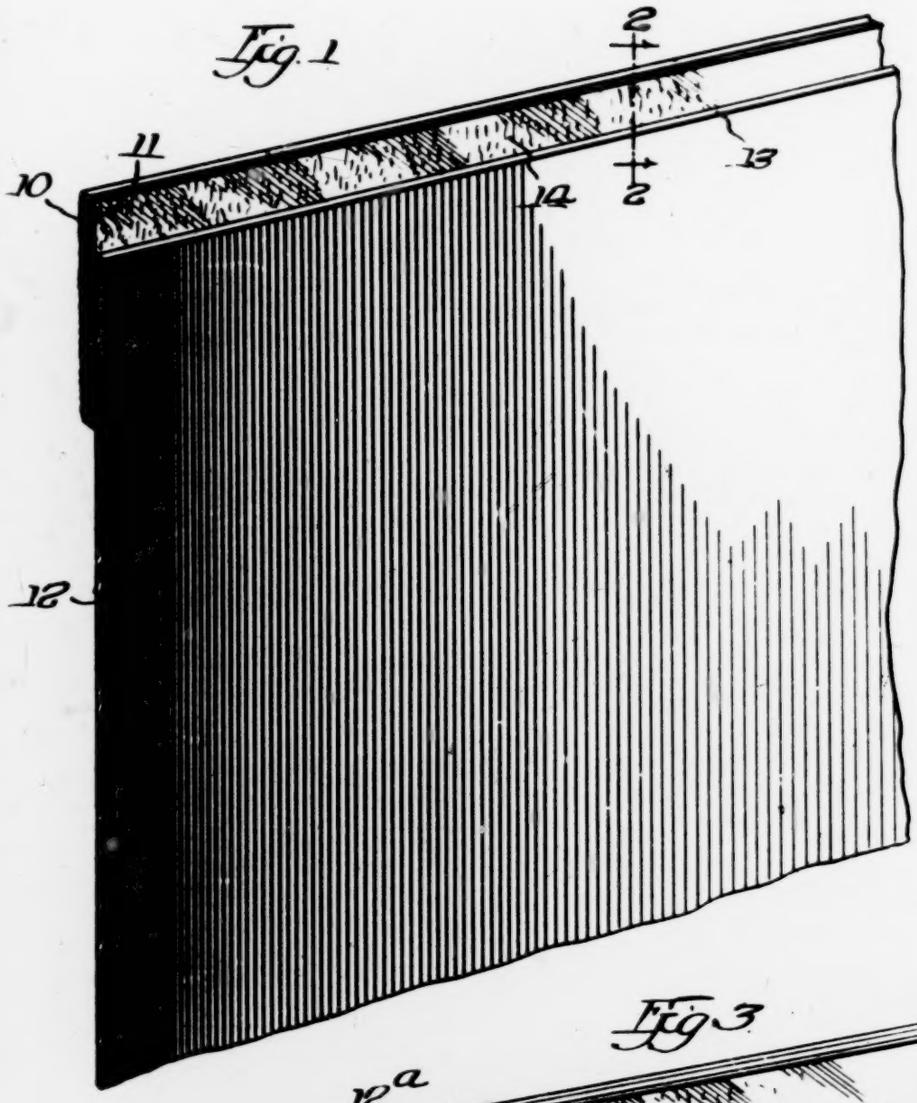
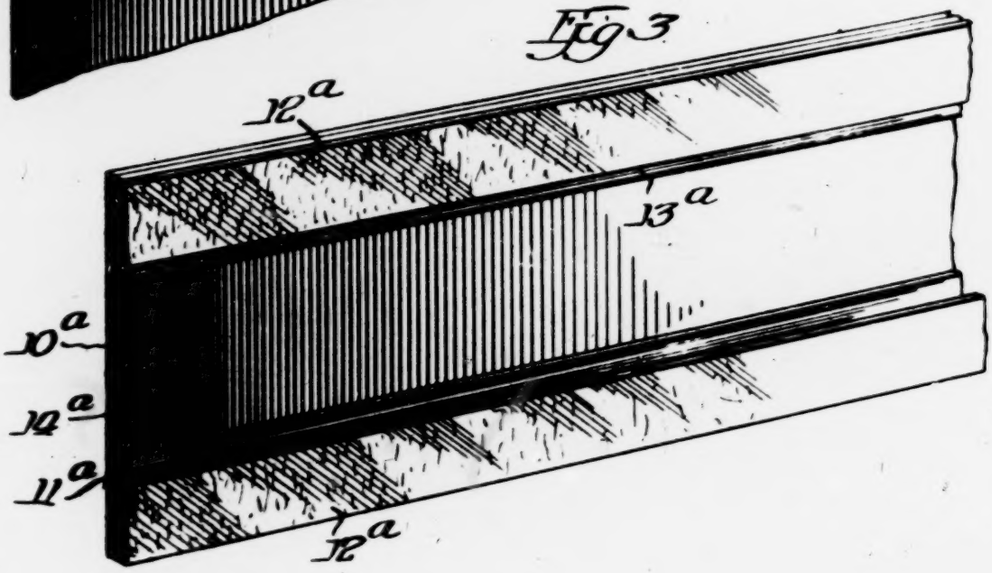


Fig. 2

Fig 3



Witness:

Inventor

Richard Gurley Drew

by attorney

Paul Carpenter

Patented May 27, 1930 1,760,820

UNITED STATES PATENT OFFICE

RICHARD GURLEY DREW, OF ST. PAUL, MINNESOTA, ASSIGNOR TO MINNESOTA MINING & MANUFACTURING COMPANY, OF ST. PAUL, MINNESOTA, A CORPORATION OF MINNESOTA

ADHESIVE TAPE

REISSUED APR 3 1934

Application filed May 28, 1928. Serial No. 281,104.

My invention relates in general to adhesives, adhesive compositions or adhesive sheets or coatings; more particularly to pressure energizable adhesives, adhesive sheets or coatings, preferably water insoluble and normally non-drying.

My invention is a continuation in part of my prior application, S. N. 182,893, filed April 11, 1927 for Adhesives in the form of sheets or the like and method of making the same.

While my invention has a broad field of usefulness, I have found it of peculiar utility for producing an adhesive coating for limiting the application of the spray of liquid finishing material, such as, for example, lacquers or painting materials used in operations in automobile body paint shops and therefore find it convenient to describe the invention in connection with such practice and product, it being understood, however, that such fields of specific description are employed purely for purposes of illustration of an example of the utility of this invention in its several phases, besides other novel phases as may appear or be hereinafter pointed out.

In the work referred to specifically above, my improved material may be used directly as a coating or as an adhesive material for holding protective paper aprons or masks against surfaces on which it is not desired to apply a lacquer, paint, paint spray or lacquer spray, such as, for example, glass windows, upholstery, rubber mats, running boards, bright metal parts and wrapping material in general, and the like.

My product may also be applied to a surface which, in a subsequent step, is to be finished by an application of a lacquer spray or painting or to a surface which has been finished in order to prevent mingling of the colors, as for example, in two color work. My improved material may be applied to paper or similar fabric material in sheeted form and is capable of being stored in piled sheets or in laminations, as formed by rolling layers of material, such as tape, or such other form as may be proper for the purpose contemplated.

For certain preferred work, for advantages hereinafter pointed out, my improved material may be applied to paper to impart minimum point contact and inherent elasticity by applying the same to paper which is toweled or crimped or otherwise shaped to present a surface other than flat and which has an extensibility beyond that of the flat paper web. Further, my improved material may be applied to completely or partially cover a backing material such as paper to present a surface which has minimum adhering surface, yet satisfies the requirements of a completely coated backing material.

It is to be observed that in finishing automobile bodies with lacquers, paints or the like of a plurality of colors, difficulty is found in limiting the application owing to the diffusion of the spray, where such is used, or requiring skillful application of the paint brush, when the latter is used. In order to obtain a clear and cleancut line of demarcation between several colors or within limited areas or applying a coating material within limited areas, masks or aprons in the form of adhesive tape have been used. These are of the general types comprising an insoluble zinc oxide adhesive coating and the rubber base adhesive coating as one group, both of which use a cloth backing, and the ordinary gummed paper tape, which forms an example of the other type. Both types of tape referred to present certain marked objections. As to the latter type, ordinary gum base tape is energized by wetting, objectionable in that it requires this wetting operation before application and still more objectionable in that it adheres so tenaciously that to remove the same requires softening of the adhesive material with large quantities of water for a long time and where this practice is resorted to the paper material becomes so weak as to laminate and tear and, to effect removal, sometimes necessitating scraping, tending to mar the underlying surface.

In the case of cloth backing, adhesive coated material, a rather expensive item is involved in the use of the cloth backing but this material is still further objectionable for use for the purpose contemplated in that the woven fabric is distensible to an extent which will make its edges irregular and unsuitable

for stripping. Furthermore, the cloth is permeable to the solvents normally used in connection with lacquer whereby the adhesive coating will be disengaged and be left as a residue upon the body of the material.

Still further, a woven fabric, such as cloth, tends to unravel or leave a feathered edge and is, furthermore, of such thickness as to present a blurred effect at marginal edges of the paint or lacquer coating.

Still further, adhesive coatings, such as cloth back zinc oxide or rubber base type tapes are not only permeable to the solvents used in lacquering or painting operations tending to disengage the adhesive and leave the same upon the work but when stacked in rolls or sheets, they are more permeable to atmospheric oxidation, tending to cause an unduly rapid deterioration of the adhesive material with a consequent loss of their power of adhering to the object to which they are intended to be combined.

While for simplicity in describing the invention and as an example for making the same, I have referred to a rubber base adhesive, it is understood that it is contemplated to employ a non-drying, pressure aggressive adhesive material and that this expression is used in the specification and claims in its broadest sense.

Among the objects of my invention are the provision of an adhesive or coating material which is non-drying or becomes aggressive by the application of pressure; the provision of an adhesive coating or coating material which becomes energizable by the application of pressure and without modification of the same by solvents or heat; the provision of an adhesive or coating material upon an inexpensive base, such as sheeted material of paper, the same being non-drying and energizable by the application of pressure without the use of solvents or heat; the provision of an adhesive upon a base of relatively non-distensible material such as paper, which may be applied to a lacquered, painted or varnished surface merely by the application of pressure of this member thereto and will present a straight edge; furthermore, the provision of an adhesive upon a base or backing, the backing serving as an impermeable member to the solvents of such materials as paints or varnishes whereby an adhesive material applied to such work as the body of an automobile will not have the adhesive coating thereof disengaged by the solvents of the lacquer, paint or varnish applied thereover; the provision of an adhesive coating material upon a base or backing, such as paper, which may be applied merely by the application of pressure and which may be retained in superimposed layers thereof, such as stacks or piles or rolls without the use of slip sheeting whereby the back of the sheeting may be removed from the adherent coat of an adjacent layer; the provision of a sheeted material having an adhesive coating, which is normally non-drying and pressure aggressive but which is so formed as to contact with work upon which it is applied to have sufficient adhesiveness for its intended function of holding a sheeted material in position but without marring the work to which it is applied, characterized by coating a base or backing of paper which is creped, toweled or otherwise formed to lessen contact over its entire area; the provision of a sheeted material having an adhesive coating thereon to limit the contact of the adhesive coating as by forming the paper by creping or toweling or localized application of the adhesive coating to the surface of the sheeted material; the provision of a sheeted material having a pressure aggressive adhesive material which may be adhesively applied to a surface and separated therefrom without splitting of the paper or marring of the body to which it is applied or leaving a residuum of the adhesive particularly after use in a painting operation by application of solvents for the paint to the back side of the same.

A still further object of my invention resides in the provision of a sheeted material having a pressure aggressive coating thereon, the whole of which is relatively somewhat stretchable and somewhat resilient, characterized by forming the backing from creped or toweled paper; the provision of a sheeted material having a paper or like base treated to render the same impermeable to coating materials, such as lacquers, paints, varnishes or the like whereby solvents used in lacquers, paints, varnishes or the like will not disengage the adhesive material which may be mounted thereon; the provision of a sheeted adhesive material having a paper base treated whereby a pressure aggressive adhesive may be applied thereto without permeating to the other side thereof; the provision of a sheeted adhesive material having a calendered, or bibulous uncalendered paper base saturated with an adhesive material whereby an adhesive coating may be applied to the same for adhesively attaching the same to a surface by the application of pressure and capable of being separated from such surface without tearing or splitting of the paper or leaving a residuum of the adhesive material upon the surface to which it is applied.

My invention still further has for an object thereof the provision of a sheeted material having a base such as paper, including on one surface thereof a non-drying adhesive coating comprising rubber and a resinous material, the adhesive being energizable by the application of pressure and which is capable of retaining the adhesive character under the most adverse atmospheric conditions, the sheet being characterized by freedom

from loss of adhesiveness and material change of the rubber and which may be further stacked or piled without the use of slip sheeting characterized by the absence of permeation of the adhesive coating to the back surface of the sheet.

The invention still further has for an object thereof the provision of an adhesive tape material having a paper base in which the filamentary material of the paper is locked and is resistant to tearing and splitting when in contact with an adhesive surface; the provision of adhesive tape material having a paper base in which the filamentary material of the paper is locked and is resistant to tearing and splitting when in contact with an adhesive surface characterized by surface treating and saturating the paper with a glue or gelatin base material; the provision of a sheeted adhesive material having a paper base which is resistant to tearing and shock by forming the same from creped or toweled paper and surface treating or saturating the same with a glue or gelatin base material whereby a pressure aggressive water insoluble adhesive coating may be applied thereto; the provision of a sheeted material having a paper base, treated or saturated with a glue or gelatin base material and further surface treated with a separator material for an insoluble pressure aggressive coating whereby sheets may be rolled or stacked without the use of intermediate slip sheeting; the provision of a sheeted material having a paper base, surface treated or saturated with a glue or gelatin base composition and a flexibility augmenting agent including glycerine whereby the surface thereof may be substantially non-adherent to a non-drying, pressure aggressive adhesive material, such as zinc oxide or rubber base adhesives, to provide a material capable of being stacked, piled or rolled without the use of intermediate slip sheeting; the provision of a sheeted material having a paper base, having an adhesive applied to limited portions thereof, such as predetermined edges of one surface whereby limited adhesiveness may be had with covering capacity of the entire sheet.

To attain these objects and such further objects as may appear herein or be hereinafter pointed out, I make reference to the accompanying drawing forming a part hereof, in which—

Figure 1 is a perspective view illustrating my invention as applied for use in connection with a painter's mask;

Figure 2 is a section taken on the line 2—2 of Figure 1;

Figure 3 is a perspective view of another embodiment of my invention.

One embodiment of my invention is in the form of a sheeted material in the nature of a tape 10 of a paper base of the character hereinafter referred to and described and treated in accordance with an invention disclosed in my application S. N. 182,893, filed April 11, 1927, and is preferably a paper saturated with a glue or gelatin base and is coated on one face with a non-drying, pressure aggressive adhesive 11. In this form, to apply a mask or apron 12 for painting or lacquering operations, a sheeted material which may be paper or the like has attached thereto adjacent the edges 13 a strip of tape 10 and it is positioned so that a portion 14 projects beyond the edges 13. The projecting portion 14 may thereafter be applied to fasten the mask or apron wherever desired, duplicating the affixation of the attaching strip at opposite edges of this mask, it being understood, however, that the strip itself may be used to cover surfaces of its own width.

In Figure 3 I have illustrated another embodiment of my invention comprising an adhesive sheeted material in the nature of the tape 10^a of a paper base of the character hereinafter described or treated in accordance with the process outlined in my application aforementioned. One face 11^a has thereon edge strips of adhesive material 12^a, preferably mounted upon an interposed priming coat layer 13^a, thus forming spaced adhesive portions and intermediate, non-adhesive portion 14^a, thereby providing a tape or sheet of limited adhesive contacting surface, though of covering capacity equivalent to the full width of the tape or sheet.

The paper base 10 may be any of the following, which I cite by way of example:

(*a*) Craft paper, regular sulfate paper, straight 100% wood pulp;

(*b*) Sulfite paper containing a goodly portion of cotton stock, suitably sized and maintained soft by additions of small quantities of glycerine;

(*c*) A parchmentized paper;

(*d*) A paper base which is preferably absorbent, approaching blotting paper, calendered or uncalendered; preferably, however, this paper base is of the unsized, uncalendered variety and is pressed, molded or otherwise formed with rugosities or corrugations to have the appearance of toweled fabric, such as by crimping or creping the same.

Paper of the character above described may have directly applied to one surface thereof a water insoluble, non-drying adhesive, preferably energizable or active merely by the application of pressure, so-called a zinc oxide or rubber base adhesive for surgeon's or industrial tape. This adhesive material may be given as follows:

Example A

A rubber compound and tackiness augmenting agent in the form of a synthetic resin. Proportions suitable for ordinary temperate climates may comprise:—

10 lbs. of plasticized, first quality planta-

tion rubber, such as clear crepe or smoked sheets.

2 lbs. of cumaron gum or resin.

½ lb. of zinc oxide pigment.

The cumaron gum or resin is preferably an artificial resinous material coming under the group name of cumaron and indene resins, which is the polymerization product of coal tar derivatives. The above ingredients are compounded on a rubber rolling mill to a plastic condition and then cut to desired body or consistency, using a rubber solvent such as benzol or a petroleum solvent, such as high test gasoline.

In lieu of a synthetic resin I may employ a low boiling point natural resin, e. g., Burgundy pitch or pine oil foots. Burgundy pitch is soluble in both alcohol and benzol.

Example B

2 lbs. of plantation rubber.

5 lbs. of Mexican or wild rubber, high in natural resin content.

1 lb. of zinc oxide pigment.

The ingredients above enumerated are compounded on a rubber mixing roll and then cut to the desired consistency in a rubber solvent, based upon the necessity viscosity for spreading this material. Ordinarily, in both Examples A and B, the solvent is calculated by the number of pounds of solid compound in one gallon of solvent such as, for instance, 8 lbs. of solid or compounded material and 1 gallon of benzol, which is commonly referred to as an 8 pound cut. The variations in proportions of solvent added will depend upon the desired thickness of adhesive coating required in the residuum.

It will be understood that the examples above given are for purposes of getting the requisite adhesiveness in temperate climates. An increase in resinous material or wild rubber may be made for material to be used in colder climates and in warmer climates the resin component may be reduced.

The resinous component may also be varied in its characteristics in its reactions to solvents by choice of the resinous material. Thus, for purposes of removal of the adhesive from some body to which it may be applied, it may be made soluble to various organic solvents, either benzol, gasoline, acetone or alcohol. Thus, where it is desirable to make a surgeon's tape, which is soluble in alcohol, an alcohol soluble resin is added in the examples above cited. Such resin may be Burgundy pitch. This will permit alcohol to be used in removing a piece of adhesive tape from any surface, such as from the skin of a patient, by merely soaking the backing of the tape in alcohol. The rubber, in any event, merely acts as a vehicle for the resin and the character of the adhesive in its reaction to solvents will be dependent upon the character of the resin incorporated with the rubber.

The rubber resin compounds in their solvents may be spread upon the paper backing directly, utilizing a knife spreader to uniformly and equally distribute this material upon the base or backing. The solvent may thereafter be removed by evaporation, preferably without recovering the solvent and leaving the rubber mixture upon the paper backing.

Though I may directly apply the rubber in its solvent upon a paper backing, particularly of the character above indicated as craft or white paper, it is preferred to preliminarily treat the paper with sizing coats, priming coats or separator coats.

Though, as above described, I may use the craft paper, white paper or parchmentized paper directly for a base or backing for the rubber adhesive, it is preferred to treat one side of the paper with a rubber primer and the opposite side of the paper with a rubber finisher and then applying the rubber adhesive to the side of the paper first treated with the rubber primer after first preferably treating the paper, especially where that hereinabove exemplified as A, B or D is used, with a glue-glycerine solution insolublized and preferably flexiblized by the process herein described and more particularly referred to in my application, S. N. 182,893.

The rubber primer is preferably a very light solution of rubber, which will leave a very thin residue of rubber, preferably tacky and to render the adhesive coating more amenable to adhesion therewith. The rubber finisher is preferably a solution of rubber which will leave a modified rubber deposit, such as chlorinated rubber or vulcanized rubber, thus leaving a residuum of rubber which is non-tacky and non-adherent to the touch of the hand or when stacked or rolled, will be capable of ready separation from the adhesive face. Tape so made can be wound up in rolls without slip sheeting and unwound successfully.

An example of a rubber primer as above used is as follows:

100 parts by weight of milled plantation rubber.

7½ parts by weight of phenolsulphonic acid.

This combination is formed in sheets and subjected to an oven temperature of 135 to 140 degrees centigrade for approximately six hours. The resulting product is flexible, and when dissolved in benzol forms an extremely liquid solution.

Untreated, smoked sheets, when cut in benzol, will form a very heavy, viscous and gelatinous solution.

Conversion of rubber into thermoplastic products, can also be accomplished by using

other reagents, such as toluenesulphonyl chloride and toluenesulphonic acid.

An example of a rubber finisher as above referred to may be made as follows:

Plantation rubber dissolved in a suitable solvent, such as benzol is placed in an agitator into which a small stream of chlorine gas is allowed to flow. The temperature is checked by artificial refrigeration, and the chlorine treatment continued until the rubber solution has become about 55% chlorine saturated. Beyond this point free chlorine escapes, which is not desirable.

It will be understood that I may, for certain purposes, substitute for the rubber finisher coat a treatment such as outlined in my application S. N. 182,893 and the means therein described for assuring separation between the back of one sheet and the adhesive surface on the opposite side of an adjacent layer.

In the practice of my invention utilizing parchmentized paper, the adhesive base may be applied directly thereto. It is preferred to treat the back with glycerine or a glue-glycerine mixture and the opposite side, before applying the rubber adhesive, with a rubber priming coat—still further, by substituting for the glue-glycerine back size a rubber finisher coat as in the example above described. The back of the parchmentized paper, whether including a back size or rubber finisher coat, or not, may be improved during its manufacture or subsequently by the addition thereto of a thin coating of glycerine.

Unsized craft paper or the creped, toweled paper above referred to may be used directly for applying thereto to rubber adhesive, preferably first interposing the finishing coat on the back and the priming coat on the front before applying this adhesive coating. Preferably, where the paper is of the unsized, uncalendered variety, the fibres thereof may be strengthened by treatment with a glue-glycerine solution to completely bond the fibres and may be insolubilized or tanned and have the flexibility thereof augmented by the process described in my application S. N. 182,893. Paper so treated, particularly as a result of first saturating with glue-glycerine and treatment with formaldehyde, forms a splendid base for the rubber primer, it being understood that I may treat the paper with glycerine or glue-glycerine after first applying a rubber priming coat, in which case it forms a layer to seal the surface of the paper, preventing the glycerine or glue-glycerine from penetrating into the rubber primer, and thus weakening the adhesiveness of the rubber. The fibrous material of the paper is bonded against lamination and is highly flexible. Economy is also effected in the amount of glue and glycerine necessary for saturating the paper base. I find that where the back of the paper is so treated, the primer adheres more firmly thereto.

A paper base of the character above described may be treated with a glue base saturating solution or an insoluble solution. For this purpose, the paper base is first sized with a solution of polyhydric resin, a synthetic resinous material resulting from the reaction, condensation or polymerization of polyhydric alcohols or their anhydrides or similar compounds or polyhydric acids or their anhydrides. This center sizing material for the paper base may have its flexibility suitably augmented and upon evaporation of the vehicle there may be applied the rubber adhesive layer, preferably by first treating one side with a rubber primer and back sized with a rubber finisher of the character hereinabove referred to.

For making a paper base or backing, the paper is first submitted to a preliminary treatment by a saturating solution involving a glue base. The saturating solution of the following materials in proportions represent my preferred practice:—

36 pounds of dry glue
72 pounds of water

108 pounds (approx. 16° Twaddell) glue solution.

Complete swelling is permitted, assisted by warming.

To this is then added 108 pounds of yellow glycerine.

108 pounds (approx. 16° Twaddell) glue solution
108 pounds pale yellow glycerine

216 pounds glue-glycerine water solution.

To this is added 216 pounds of water.

216 pounds glue-glycerine water solution
216 pounds water

432 pounds.

The paper above described is preferably continuously submerged and passed through a bath of the saturating solution as above prepared and then passed through pressure rolls to squeeze off the excess and then dried by heating. It will be observed that just complete saturation is preferred as this step is closely related to the success or failure of the treatment. An insufficient saturation will be characterized by failure to completely bond the fibres of the unsized paper nor will the saturating solution be present on the back side. An over-sufficient saturation of the paper will render the surface unfit for subsequent coating, which will be observed as this description proceeds.

A paper so treated will be found to have the fibres thereof locked to materially strengthen the paper web and provide a

highly flexible sheet. Where I use the toweled or creped variety of paper, this sheet will be found to be substantially elastic and resistant to tearing by shock as where using the same for wrapping purposes.

Prior to the drying step above mentioned, in one form of the practice of my invention, after the paper has been saturated and passed through the pressure rolls, the web of material is subjected to a treatment tending to insolubilize or tan the glue. The insolubilizing or tanning agents may be formaldehyde in solution or as a vapor, sodium carbonate solution of gallic and tannic acids, chromium trioxide and chrome alum or other chrome and aluminum salts.

My preferred practice is to submerge the paper in a bath consisting of one part commercial formaldehyde and nine parts water by volume. The lapse of time between saturating with glue-glycerine water solution and formaldehyde does not seem to materially affect the quality of the paper. Formaldehyding on one side only, that is, the application of formaldehyde to one face of the previously treated paper, is preferred for purposes which will hereinafter appear where it is desired to further coat the untreated surface and leave the opposite surface substantially inactive.

The formaldehyding on one face only has the advantage that immediate insolubilizing or tanning may be practiced and further, treating one side only is less strain on a paper than complete submersion, particularly where the formaldehyde is in the form of a solution and the saturated paper before the excess water is evaporated is of low tensile strength and therefore less subject to tear or break. The treated surface is then submitted to a neutralizing action and where formaldehyde is used for the insolubilizing or tanning action, I may accomplish neutralization by subjecting the paper to a lime water treatment. It is preferred, however, to submit the formaldehyded web to a heat treatment. A temperature of 140 to 160° F. is used to thoroughly dry and volatilize all surplus formaldehyde.

It will be observed that I have described the saturation and the insolubilizing or tanning of the glue base as separate steps. However, the tanning or insolubilizing agent may be incorporated in the saturating solution above described, the tanning action or insolubilizing action of the glue being accomplished simultaneously with the drying of the saturating solution. For this purpose there is added to the saturating solution the tanning or insolubilizing agent. Where I use formaldehyde, I put an aldehyde compound into the glue solution prior to the saturation step. It is preferred to retard the action of the aldehyde so that the insolubilizing or tanning of the glue is accomplished in the drying step. This retarding activity is accomplished by taking any aldehyde compound, such as formaldehyde, and adding ammonia thereto. In practice, equal molecular percentages of formaldehyde and ammonia are used in amounts equivalent to 5% of the aldehyde to the dry weight of the glue.

The saturating solution thus modified is used in the manner previously described. In the drying of the paper, the aldehyde-ammonia compound breaks down to liberate formaldehyde, setting up, insolubilizing or tanning the glue.

Though mere exposure by air drying of the saturated paper will sufficiently insolubilize the glue, due to the decomposition of the ammonia-formaldehyde compound, to liberate formaldehyde, however, it is preferred to hasten this decomposition by heating the saturated web. Ordinarily a temperature of approximately 80° C. will be sufficiently rapid. However, it is preferred to use a temperature between 100 to 120° C., which has been found to sufficiently set the glue with a speed of operation conducive to best practice.

The sheet so saturated and heat treated will have the glue or gelatine base substantially insoluble and, in a sense, waterproof. The paper base will be particularly strengthened and be resistant to sudden shock or stress, making it admirably suited for wrapping purposes. Particularly desirable elastic properties will be obtained where the paper base is of the toweled or creped variety wherein actual elasticity is imparted to the paper in that it retains the crimping or creping originally formed or molded in the paper and the tensile strength is materially increased and is tougher in a wet state when carrying its minimum amount of water content, apparently due to a vulcanizing or glueing together of the fibres of the paper into a solid mass. The flexibility augmenting agent further provides a sheeted material resistant to bearing when sharply folding the same.

Where I have described the use of dry glue with pale yellow glycerine, it will be observed that good results have been obtained with cheaper material such as low grade glue and using the crude rather than the pale yellow glycerine. Other flexibility augmenting agents as a modifier for the glue in place of the glycerine may be used. For certain purposes, particularly as will hereinafter be described, sulphonated oils such as Turkey red oil, sulphonated castor oil, may be used. These materials are not hygroscopic and tend to check, to a certain extent, the tendency to absorb and carry too much water. While I may use hygroscopic agents in general, for modifying the glue to retain a certain amount of water content inducing flexibility, it is preferred to use organic modifiers and for this purpose a sugar content fused in the glycerine of the saturating liquid has been found to be

particularly desirable. A paper web saturated with glue, formaldehyded or tanned as above described, has been found to be waterproof and particularly suitable as a base for forming the adhesive tape previously described when there is coated thereover the pressure aggressive, non-drying rubber base adhesive previously described.

By a "unified cellulosic backing" I mean to include a web of fabric comprising paper chosen from the materials herein described including gelatinized cellulosic sheets, such as parchmentized paper, preferably treated with glycerine; paper treated with a composition consisting of glue, preferably modified by a softening agent, such as glycerine; paper surfaced with an insoluble rubber, such as chlorinated rubber; paper surfaced with an insoluble varnish compound, such as an insoluble resinous condensation product, the products whereof have the materials of the sheet in a condition so that when coated with a normally pressure sensitive adhesive, the elements of the sheet will be protected and held together against separation and with greater adhesion inter se than the adhesive coating has for the material to which the adhesive coating is affixed, to permit removal of the sheet from work to which it is applied or from rolls or stacks of such sheets, without substantial splitting or lamination of the sheet.

By a "unified pressure sensitive adhesive" I mean to include a coating which is normally adhesive by pressure as in applying a tape to a body material in which adhesion is effected without the necessity of energizing the adhesive by a moistening agent, and which has greater adhesion to the backing to which it is applied and cohesion inter se than adhesion to the surface to which it is temporarily applied, to permit its use for the purposes herein outlined, without substantial breaking, separation or lamination.

By "normally pressure sensitive adhesive" I mean to include a coating which normally is adhesive by pressure, as in applying a tape to a body material in which adhesion is effected without the necessity of energizing the adhesive by a moistening agent.

By "a paper which is distortable" I mean to include a web of material made by a paper making process and which is formed with rugosities by toweling or creping.

The specially treated paper and its adhesive coating duplicate results attainable heretofore only with cloth backing and, in addition, has marked advantages thereover. The paper base adhesive tape—

(1) Produces a flexible sheet with more body and density than cloth, particularly where a creped or toweled paper is used;

(2) High tensile strength is obtained by loading the paper with glue, particularly when acted upon by an insolubilizing, tanning or formaldehyding agent. This renders the glue incapable of dissolving in water, which permits it to retain a considerable amount of its strength when in contact with water and hygroscopic materials which may constitute the adhesive film. When glycerine or other modifying elements are used, the saturated sheet is particularly flexible and resistant to breaking thereof by bending;

(3) The saturating and coating accomplish an action of welding, vulcanizing or glueing together of the paper fibres into one solid sheet, which makes impossible any laminating or splitting of the tape when removed from a surface to which it has been applied for some time or when put up in rolls without the use of slip sheeting;

(4) The treatment, particularly the saturating treatment of the paper, particularly when accompanied by insolubilizing, tanning or formaldehyding, also makes impossible any surface fibres breaking away or tearing away from the backing and sticking to the adhesive film when unwound from a roll. Thus, no modification of the adhesive film is effected.

(5) The hygroscopic agent, such as glycerine, retained in the saturated paper, maintains a water content in the paper backing of which it is a part. The adhesive film is therefore prevented from anchoring itself too securely to the reverse side of the backing, that is, a non-drying adhesive secures a hold or adheres to a dry surface much more thoroughly than to one which is moist or damp. Also, as the glue saturated paper has been insolubilized, tanned or formaldehyded, the adhesive coating will not unite with the backing as there is no solution possible between the rubber base adhesive and an insolubilized gelatin.

(6) The paper affords a material cheaper than cloth, which will not stretch as cloth does and, in painting operation, which enables the user to preserve the same for striping and the like painting or finishing operations. The paper base or backing being relatively thin, permits sharper definition in a painting operation for two tone color jobs as it lies substantially in the plane of the body to which it is affixed. Furthermore, the edge of a paper backed adhesive tape presents no feather edge nor will it unravel as cloth backing will, making it additionally desirable in painting operations.

(7) The paper backing with an adhesive layer at the edges thereof has the covering capacity of the full width of the paper but with minimum adhesion, permitting an economy in the adhesive coating, a ready removal from the body to which it is applied, avoiding the danger of marring the surface to which it is applied, may be unrolled or separated from an adjacent sheet with great facility and, in general, the paper backed

adhesive tape widens the field of utility due to cheapening the cost of the entire article.

Having thus described my invention and illustrated its use, what I claim as new and desire to secure by Letters Patent, is—

1. As a new article of manufacture, a sheeted material including a creped or toweled fabric base and a pressure sensitive adhesive coating on one face thereof.

2. As a new article of manufacture, a removable adhesive tape comprising a paper backing formed with rugosities by creping or toweling and a pressure sensitive adhesive coating on one face thereof.

3. As a new article of manufacture, an adhesive sheet comprising a unified cellulosic backing and a pressure sensitive adhesive coating united to one surface of the backing.

4. As a new article of manufacture, an adhesive sheet comprising a unified cellulosic backing and a pressure sensitive adhesive coating united to one surface of the backing, the other surface of the backing being repellent to the adhesive.

5. As a new article of manufacture, a sheeted material including a water insoluble unified pressure sensitive adhesive united to one surface of a cellulosic backing, the opposite surface of said backing being unified by a repellent for said adhesive.

In testimony whereof I have hereunto signed my name.

RICHARD GURLEY DREW.

Technical's Exhibit 205

Sept. 4, 1923. 1,467,108

M. B. HODGSON

DENTAL FILM MOUNT

Filed Oct. 26, 1920

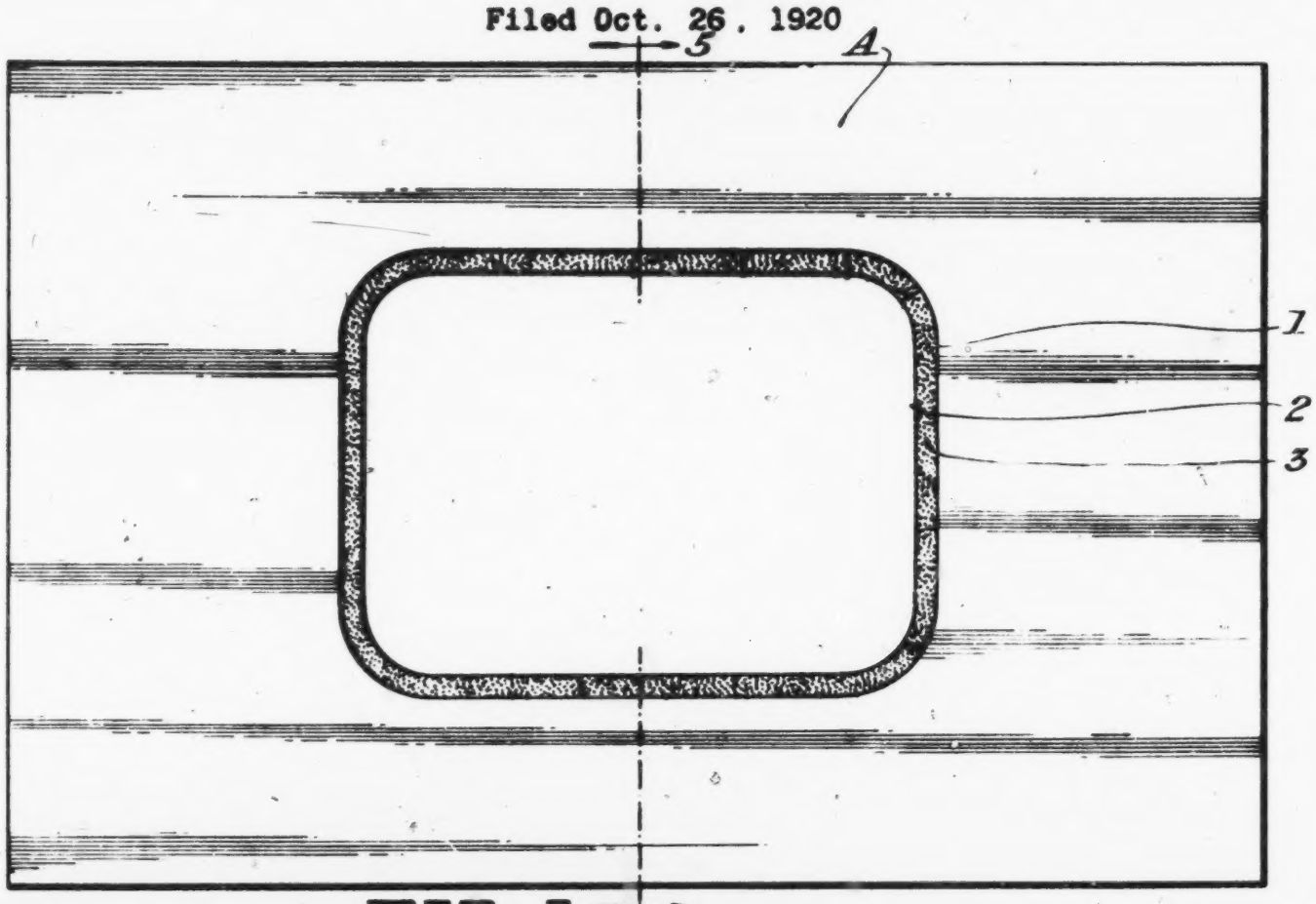


FIG. 1.

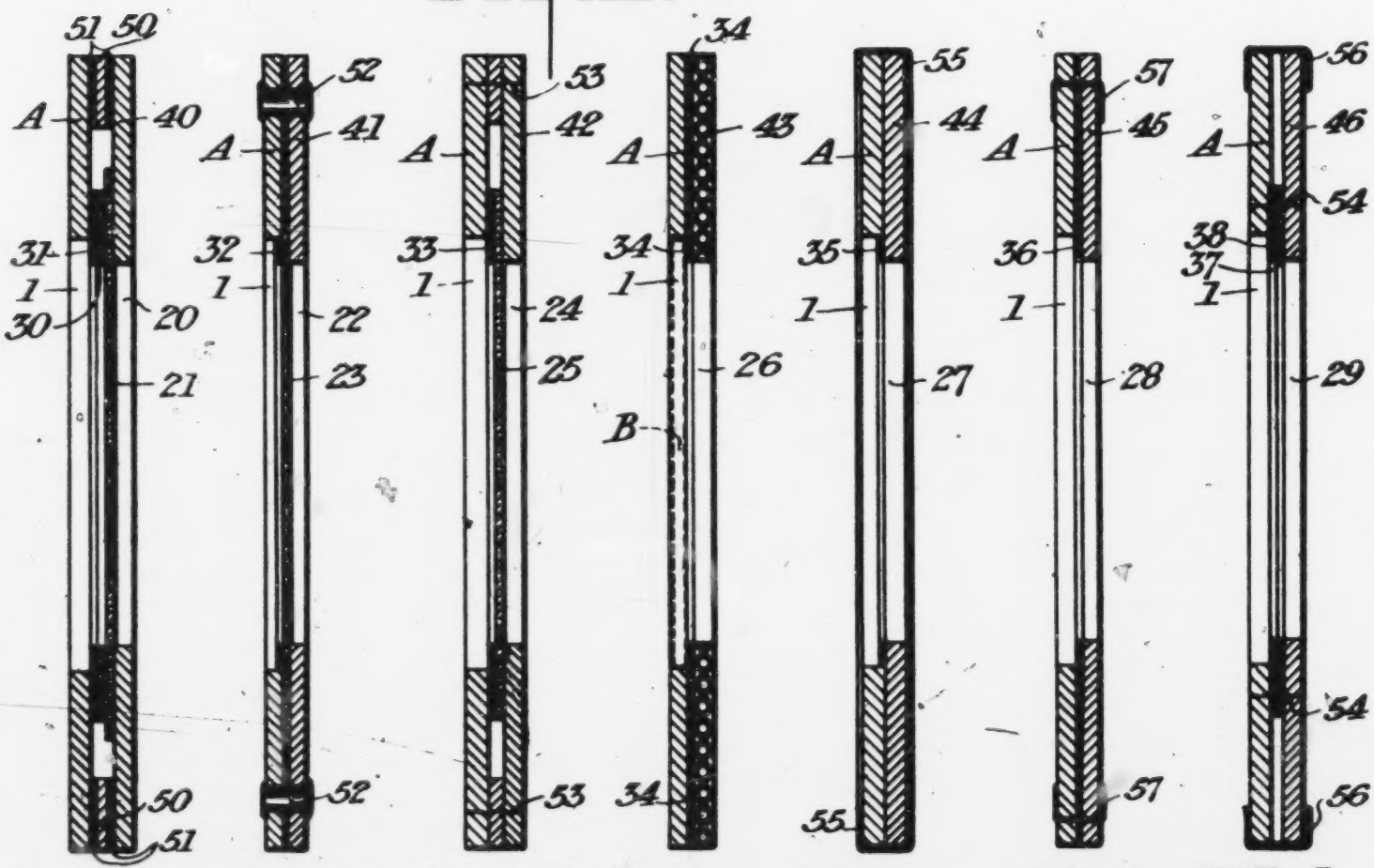


FIG. 2. FIG. 3. FIG. 4. FIG. 5. FIG. 6. FIG. 7. FIG. 8.

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Patented Sept. 4, 1923. 1,467,108

UNITED STATES PATENT OFFICE.

MILLARD B. HODGSON, OF ROCHESTER, NEW YORK, ASSIGNOR TO EASTMAN KODAK COMPANY, OF ROCHESTER, NEW YORK, A CORPORATION OF NEW YORK.

DENTAL FILM MOUNT.

Application filed October 26, 1920. Serial No. 419,757.

To all whom it may concern:

Be it known that I, MILLARD B. HODGSON, a citizen of the United States of America, residing at Rochester, in the county of Monroe and State of New York, have invented certain new and useful Improvements in Dental Film Mounts, of which the following is a full, clear, and exact specification.

This invention relates to mounts for photographic films and particularly to mounts adapted to hold small dental Rontgenographic negatives so that they may be examined by transmitted light, and so that they may be readily filed.

The objects of my invention are to provide such a mount that will be easily manufactured, into which the film may be placed with the minimum of care, and which will hold the film securely against accidental displacement, but which will permit of its removal. Other objects appear hereinafter.

I attain these objects by constructing the mount with a window that will transmit light, around which window is a marginal portion coated with a slow-drying adhesive to which the margin of the negative will adhere by pressure, and around this margin is a centering frame within which the negative fits, thus insuring its proper location with respect to the adhesive and the window.

Reference will now be made to the accompanying drawing in which like reference characters refer to like parts, and in which

Fig. 1 is a plan view of my improved mount.

Figs. 2 to 8 are respectively sections of different constructions of my improved mount, Fig. 5 being taken on the line 5—5 of Fig. 1, and differing in details that will be pointed out in the full description following.

My mount consists in general, of a front film-centering sheet which is designated A in all of the forms shown, and which has an aperture 1 of a size and shape to fit the particular film with which it is intended to be used, and of a back sheet which is shown as differing in construction in the different figures. In all forms, however, the back sheet has a central light transmitting window 2 smaller than, but registering centrally with, the aperture 1, and it carries on the margin around this window and within the aperture a coating of a slow-drying adhesive 3, the desired characteristic being that the adhesive shall remain "tacky" for a very considerable length of time. While the particular composition of the adhesive is not of importance, it is preferably a composition of rubber and coal tar pitch with any suitable softener, such as benzol, gasoline or chloroform. This remains for a long time sufficiently adherent to hold an ordinary film when the latter is merely pressed against it. Compositions such as that mentioned are well known and are used for adhesive tapes of various kinds, such as that known as "surgeon's tape."

In the form shown in Figure 2, there is a sheet 40 having a central aperture 20, covered by a strip of pyroxylin 21 which may be clear or transparent. A mask 30 of flexible material is coated with adhesive 31, and placed on the pyroxylin sheet, the inner edge of the mask registering with the edge of aperture 20. This whole assemblage constitutes a back member of the mount and is placed behind the front member A, with the apertures registering centrally and the outer edge of the mask carrying the adhesive extending beyond the edges of the aperture 1. There is thus left a margin of adhesive within the aperture 1, and surrounding the light transmitting window formed by the aperture 20 covered by pyroxylin 21.

In the form shown in Figure 3, the sheet 41 has a central aperture 22, covered by a pyroxylin sheet 23, to which is applied a band of adhesive 32 the inner edge of which registers with the edge of aperture 22, and the outer edge of which fits just within the aperture 1 when the elements are assembled. The sheet 32 and sheet 23 with the adhesive thereon comprise the back member of the mount.

In the form shown in Figure 4, the sheet 42 has a central aperture 24, covered by a pyroxylin sheet 25 to which is directly applied the border of adhesive 33, the inner edge of which registers with the edge of aperture 24, and which extends beyond the edges of aperture 1 when the parts are assembled.

In the form shown in Figure 5, which is my preferred form, a sheet 43, preferably of opaque fabric, has an aperture 26. The entire surface of the sheet is coated with adhesive 34 of the type described. This

form of mount is particularly easy to make since a long strip of fabric may be evenly coated, and passed through a stamping machine that cuts out the apertures, while a long strip of opaque paper is passed through another machine which cuts out suitably spaced and shaped apertures and the two strips are then joined by pressure only, in proper registry and cut between the apertures. A film B is indicated in dotted lines.

In the form shown in Figure 6, the sheet 44 has an aperture 27, and a margin of adhesive 35 around this aperture and fitting within the aperture 1.

In the form shown in Figure 7, the sheet 45 has the aperture 28 with a border of adhesive 36 around it, and extending beyond the edges of aperture 1 when the parts are assembled.

In the form shown in Figure 8, the sheet 46 has the aperture 29, with a mask 37, carrying adhesive 38, fitting around it, the mask and adhesive extending beyond the edges of aperture 1 when the parts are assembled.

In the preferred form, shown in Figure 5, the adhesive alone holds the elements together, but in the other forms it is necessary or desirable to employ other securing and binding means. Various alternative means may be used such as are shown in the several figures. These may comprise spacing strips 50, coated on each surface with adhesive 51; eyelets 52; stitching 53 or 54; edge binding 55 or 56; or wire fasteners 57, and these fastening means may be secured as shown at any desired points in the mount.

In use the negative is slipped into the aperture 1 of a holder and since the negative and aperture are correspondingly shaped, the negative will be at once correctly centered. It is then pressed down firmly around the edges and will at once be held in the mount ready for use. If the forms having a celluloid sheet are used the emulsion side of the negative is placed against this sheet so as to be protected against injury. It is intended that these mounts shall constitute filing means for the negatives, which are thus permanently mounted on them, but should it be desirable for any reason to remove the negative, this can be done since it can be stripped from the adhesive without injury to its diagnostic value.

The mount thus made, particularly in the preferred form, is obviously simple in manufacture and in use. It has no protruding nor movable parts that engage other mounts or that can break off. It is thin and easily filed; the films are mounted with the greatest ease and can be readily removed. It is not necessary, as in some mounts, to slide the film behind a frame, or to insert its corners painstakingly through slits or under tabs that are liable to break and that usually cause annoyance. It is only necessary to lay it in the countersunk opening, the edges of which act as locating abutments and press it slightly at the edges. While I have described the mount as used with dental X-ray negative films, it is obvious that any image-bearing sheet, differing widely in form and material, may be placed in a mount, the structure of which embodies my invention, and I contemplate all such changes and equivalents as falling within the scope of the appended claims.

Having thus described my invention what I claim as new and desire to secure by Letters Patent is:

1. A holder for an individual X-ray dental film comprising a backing sheet having a light-transmitting viewing portion, a second sheet attached thereto and having an opening, the first named sheet having just within the periphery of the said opening a narrow strip of slow-drying adhesive coating material, whereby a film shaped to fit said opening may be placed therein and will be removably held in place at its margins only by the narrow strip of adhesive material.

2. A mount for an individual X-ray dental film comprising a fabric back sheet with a viewing opening, and coated upon its entire front surface with a slow-drying adhesive material, and a front sheet with an opening larger than said first named opening, the front sheet adhering to the coating, the openings in the two sheets being so located that an adherent margin will remain around the smaller opening and within the larger opening, whereby a dental film shaped to fit said larger opening will be properly located by the edges thereof and may be adhesively but removably attached by the use of pressure only, and at the margins only, to the back sheet and within the aperture in the front sheet.

3. A transparency comprising a backing sheet having a light-transmitting viewing portion, a second sheet attached thereto and having an opening larger than said viewing portion, an image-bearing, light-transmitting sheet fitting within said opening and attached at its margins only, by means of a slow-drying adhesive composition, to the backing sheet.

Signed at Rochester, New York, this 22nd day of October 1920.

MILLARD B. HODGSON.

Patented Dec. 27, 1932 1,892,123

UNITED STATES PATENT OFFICE

WILLIAM F. ZIMMERLI, OF FAIRLAWN, AND ROBERT S. HAVENHILL, OF AKRON, OHIO, ASSIGNORS TO THE B. F. GOODRICH COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK

ADHESIVE COMPOSITION AND METHOD OF MAKING SAME

No Drawing. Application filed April 12, 1928. Serial No. 269,601.

This invention relates to adhesive compositions and particularly to plastic adhesive compositions which permanently retain their tack and plasticity upon extended exposure and to methods of making such adhesives.

The purpose of the present invention is to impart to reclaimed rubber a permanent plasticity and to increase materially its adhesive power by giving to it a longer "tooth" than had been heretofore possible with adhesives having a rubber base.

Briefly, the invention consists in fluxing reclaimed rubber with certain resins in such manner as to form extremely tacky and permanently plastic compositions of soft smooth uniform texture. Such tacky and permanently plastic compositions may be made by fluxing reclaimed rubber produced by any of the ordinary and commercial methods from tire casings, inner tubes, boots and shoes and mechanical goods, and hereafter generally referred to as "reclaimed rubber", with ester gum or similar resin, such as rosin, paracoumarone, manila copal and the like, hereinafter for convenience referred to collectively as "resin gums". This may be accomplished by placing the two constituents into an internal mixer and masticating with or without application of heat, the heat of mixing being sufficient to effect the fluxing which may nevertheless be accelerated by an external application of heat. It is to be understood, however, that the fluxing of the two constituents may be carried out on a regular rubber mill or even in an open vessel.

The plastics thus formed are miscible with so-calied rubber solvents in all proportions, such solvents as gasoline, benzol, carbon tetrachloride being particularly satisfactory and mixtures of these with acetone or other resin gum solvents preferably in proportions not in excess of ½ resin gum solvent have been generally found to give the most satisfactory results.

The plastics of this application have the capacity for admixing with large quantities of the rubber compounding ingredients, particularly pulverulent pigments like clays, gas black, pulverulent metallic oxides, etc., and softeners like pine tar oil, linseed oil, castor oil, asphaltums, etc.

In one embodiment of our invention, inner tube reclaim, 400 parts by weight, is placed in a masticator and ground resins of equal weight slowly added thereto, the mastication being continued until a soft, smooth tacky dough is formed. This dough is suitable for certain uses as an adhesive but because of the difficulty of spreading it in thin films, it is preferable for certain purposes to dissolve it in a quick-drying solvent. To do this, the dough is preferably placed in a cement churn and 200 parts by weight of gasoline and 100 parts of acetone are admixed therewith. This forms a heavy viscous but readily spreadable composition which, when formed into films or coatings and the solvent removed by evaporation, is as tacky and permanently plastic as the original dough from which it was made. It is this unusual property of the adhesive compositions of this application to retain their tack and plasticity, as well as their high adhesive strength, which gives to them their unusual value for a large number of purposes. Increased quantities of solvents may be added if desired.

In another embodiment, whole tire reclaim is broken down on a rubber mill and then placed in an internal mixer, and an equal weight of ground ester gum is slowly added and the two admixed until there is a complete fluxing of the two materials. This forms a soft smooth dough. Where compounding ingredients are to be added, softeners are preferably added with the resins and pulverulent pigment after the plastic dough has been formed, or even after the dough has been dissolved or dispersed in organic solvents. It is to be understood, however, that all these compounding ingredients may be added at any stage in the process of preparation. Thus, one recipe which has given very satisfactory results calls for pine tar in an amount equal to one-fifth the weight of the reclaim, and an anti-oxidant such as aldol-alpha-naphthylamine in an amount equal to one-fiftieth the weight of the reclaim, to be incorporated with the batch along with the resin gum. The plastic dough

thus formed is then dissolved in a mixed organic solvent, in an amount substantially equal in weight to the reclaim content, and consisting of two parts gasoline and one part acetone. Pigments, such as clay, blanc fixe, whiting, carbon black, etc., are now added to the dissolved plastic in such quantities as may be desired to form a viscous mass of desired consistency. Materials of the consistency of fresh putty are useful as waterproof plastic fillers and sealing compounds and have the unusual property of retaining their plasticity over extended periods.

While in the above specific examples, the reclaimed rubber and resin gum have been employed in equal parts, the proportions may be widely varied, 50 to 200 parts by weight of reclaimed rubber to 100 parts of resin gum having been found to give satisfactory products.

Numerous variations and modifications in the procedure hereinabove set forth may be made without departing from the invention hereof, it being particularly understood that incorporation with the plastic hereof of other materials, whether pulverulent, amorphous, or liquid, either during or after the preparation of the plastic are contemplated and comprehended within the scope of this invention.

We claim:

1. The herein described method of making a spreadable adhesive composition which comprises dispersing in reclaimed rubber a resin gum in amounts substantially within the range of 50 to 200 parts of reclaimed rubber to 100 parts of resin gum until a smooth end-product is produced, and thereafter reducing the viscosity of the mass to desired consistency by the addition of organic solvents.

2. The herein described method of making a spreadable adhesive composition which comprises dispersing in reclaimed rubber ester gum in amounts substantially within the range of 50 to 200 parts of reclaimed rubber to 100 parts of ester gum until a smooth product is produced, and thereafter reducing the viscosity of the mass to desired consistency by the addition of organic solvent comprising a rubber solvent and a resin solvent.

3. A spreadable composition composed of a plastic dough comprising reclaimed rubber and ester gum intimately admixed to form a dough of higher plasticity than either of its constituents and dispersed in an organic solvent.

4. A spreadable composition composed of a plastic dough comprising reclaimed rubber and a resin gum intimately admixed to form a dough of higher plasticity than either of its constituents the latter being present in amounts substantially within the range of 50 to 200 parts by weight of reclaimed rubber to 100 parts of resin gum, said dough being dispersed in an organic solvent.

5. A spreadable composition composed of a plastic dough, comprising reclaimed rubber and ester gum intimately admixed to form a dough of higher plasticity than either of its constituents, the latter being present in amounts substantially within the range of 50 to 200 parts by weight of reclaimed rubber to 100 parts of the ester gum, said dough being dispersed in organic solvent of the class comprising gasoline, carbon-tetrachloride, acetone or mixtures thereof.

In witness whereof we have hereunto set our hands this 9th day of April, 1928.

WILLIAM F. ZIMMERLI.
ROBERT S. HAVENHILL.

Technical's Exhibit 205

Hodson U. S. Patent 1,467,108.

(See opposite ☛)

Technical's Exhibit 207

Zimmerli U. S. Patent 1,892,123.

(See opposite ☛)

Drew II (Minnesota's Exhibit A)

1939. R. G. DREW 2,177,627

ADHESIVE SHEETING

Original Filed June 10, 1933

Fig. 1.

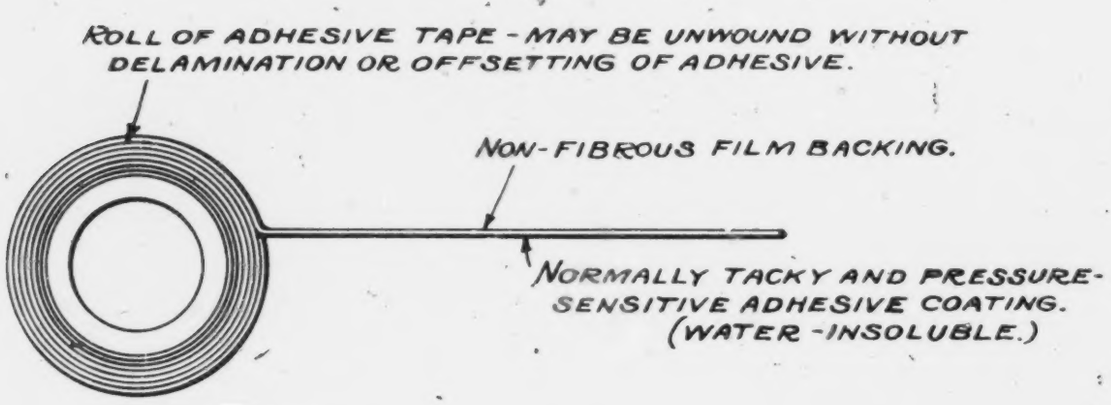


Fig. 2.

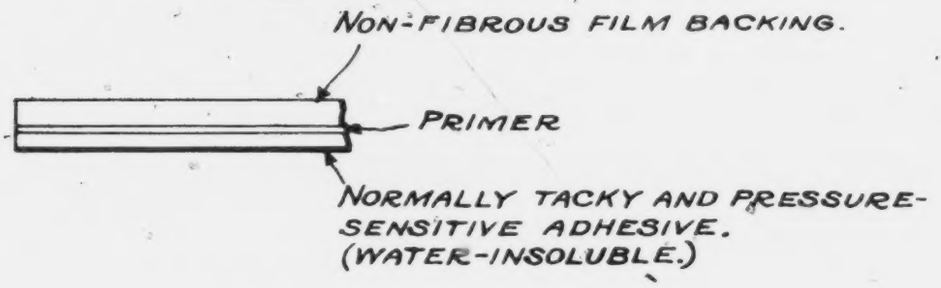
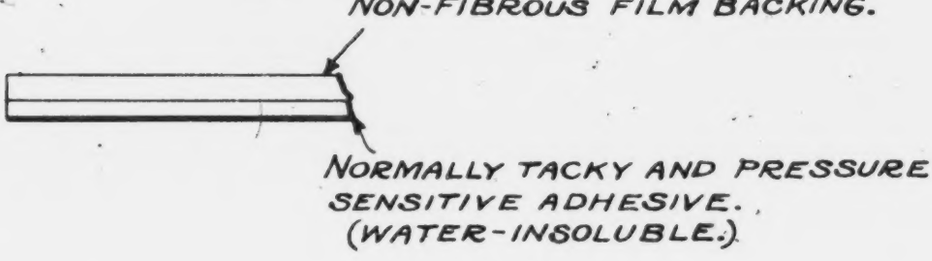


Fig. 3.



Inventor

Richard Gurley Drew,

By Paul Carpenter

Attorney

Patented Oct. 31, 1939 2,177,627

UNITED STATES PATENT OFFICE

2,177,627

ADHESIVE SHEETING

Richard Gurley Drew, St. Paul, Minn., assignor to Minnesota Mining & Manufacturing Company, St. Paul, Minn., a corporation of Delaware

Original application June 10, 1933, Serial No. 675,291. Divided and this application February 18, 1938, Serial No. 191,259

16 Claims. (Cl. 91—68)

This invention relates to adhesive sheets having a backing with a non-fibrous surface (such as normal or waterproofed films of regenerated cellulose) and a coating of normally tacky and pressure-sensitive adhesive united thereto. While not limited thereto, the invention relates especially to transparent adhesive sheets, to adhesive sheets in the form of adhesive tapes which may be sold in stacked or coiled form, and to adhesive sheets or tapes which are well adapted to the sealing or securing of wrappers composed of non-fibrous lustrous cellulosic films and the like.

This application is a division of my co-pending application Ser. No. 675,291, filed June 10, 1933, and is in part a continuation of my co-pending application Ser. No. 534,386, filed May 1, 1931.

The development of packaging and wrapping sheets composed of thin, transparent and flexible non-fibrous films has raised special problems as to sealing or fastening with adhesives. Likewise, the desirability of using such films as backings for adhesive tapes cannot be met by use of the old conventional adhesives. Such sheet material is exemplified by gelatinized cellulosic materials which form films, such as regenerated cellulose, cellulose esters (as cellulose nitrate, cellulose acetate-butyrate and cellulose acetate), and cellulose ethers (as ethyl cellulose and benzyl cellulose), and by regenerated cellulose films which have been waterproofed by coating on one or both sides with a layer or film of a cellulose derivative. The popularity of these materials resides in such qualities as brilliancy, sheen and transparency, and in the later development of such material, in the quality of waterproofness. Ordinary glue type adhesives are insufficiently adherent by reason of the non-porous or highly glazed surfaces provided by this type of sheet material.

In accordance with this invention, sheets of such film material are provided with coatings of normally tacky and pressure-sensitive adhesive firmly united thereto. By "normally tacky and pressure-sensitive" it is meant that under ordinary atmospheric conditions the adhesive is stably in a condition such that it does not need to be activated by solvents or heat or otherwise prepared in order to secure good adherence to surfaces against which the adhesive coating (with its backing) may be pressed when used. An adhesive coating is provided which enables the adhesive sheeting to be affixed to smooth lustrous surfaces, such as non-fibrous cellulosic surfaces of wrapping or packaging sheets or films. An object of the invention is to provide a unified adhesive coating possessed of such coherence in relation to adhesiveness and so firmly united to its backing that the adhesive sheet may be stripped from smooth non-fibrous surfaces (not possessing special chemical affinity for the adhesive), to which it may have been temporarily applied, without offsetting of adhesive material. Hence the adhesive coating may be termed "non-offsetting", and this expression designates an important physical or physico-chemical property or characteristic of the adhesive coating, namely, that its coherency is greater than its adhesiveness. Further, an object is to provide adhesive sheets having an adhesive coating that is in elastic equilibrium with its backing so that warping and curling of the sheet, and blistering of the adhesive coating, are avoided.

In the accompanying drawing:

Fig. 1 shows a roll of adhesive tape, the tape having a non-fibrous film backing provided with a water-insoluble normally tacky and pressure-sensitive adhesive coating, which may be unwound without delamination or offsetting of adhesive;

Fig. 2 is a diagrammatic cross-sectional representation of a construction in which a primer coating is interposed between the backing film and the normally tacky and pressure-sensitive adhesive coating; and

Fig. 3 is a corresponding representation in which the primer coating is omitted.

Adhesive sheets are provided in which all components and the composite are transparent, so that the sheets may be applied without concealing the coloring or markings of the surfaces to which applied.

The transparent backing may be printed in reverse, on the face which carries the adhesive and prior to coating, to provide an adhesive sheet with the printing visible through and protected by the backing.

The adhesive sheets may be prepared with a surface continuously coated with adhesive, as in the case of ordinary adhesive tapes, labels and seals, or with the adhesive on certain areas only, as in the case of a packaging sheet provided with coated portions to permit sealing without the use of other sealing means.

It is preferred that the backing to which the adhesive coating is united be a transparent, flexible, non-fibrous film of gelatinized cellulosic material, such as regenerated cellulose (as normal or unwaterproofed "cellophane"), cellulose esters (as cellulose nitrate and cellulose acetate), cellulose ethers (as ethyl cellulose), or composites of such materials as, for example, a film of regenerated cellulose coated on one or both surfaces with a waterproofing film of a cellulose derivative (as a cellulose ester or ether). However, I may utilize backings comprised of materials other than gelatinized cellulosic materials, and which are either non-fibrous or are coated with non-fibrous films (preferably water-

proof) composed of cellulosic or other suitable material, including varnishes, lacquers, etc.

In its preferred form my invention is particularly applicable to transparent films of gelatinized cellulosic materials, such as regenerated cellulose, which is clear, transparent and lustrous. This may be made by forming an alkali cellulose compound, properly aged, of wood pulp or cotton liners, then xanthating to prepare viscose with carbon bisulfide and after careful filtration and clarifying by removing air or solid particles, casting the viscose in a coagulating bath of sulfuric acid and sodium sulfate. The film so cast is desulfurized, bleached, softened with glycerine, and then dried.

The regenerated cellulose film so produced may be waterproofed either on one side or on both sides, with a suitably compounded thin film of nitro-cellulose, cellulose acetate, cellulose ether, and similar cellulosic compounds. It will be understood that the waterproofing ingredients may include oxidized oils, varnishes and lacquers. The primary requisite is the application of these waterproofing films so as not to impair the lustrous and transparent characteristics of the sheet formed and to overcome any tendency to provide a warped sheet by the waterproofing layer that may be applied. Additionally, coatings such as transparent rubber, synthetic resins, and like materials may be used as a waterproof coating.

Where transparency of the adhesive tape is not of major importance, but where it is desired to provide a flat, unwarped exposed brilliant and lustrous surface, I have determined that an adhesive coating may be applied to the cellulosic film of the character previously enumerated and obtain a composite in which the adhesive is unified thereto, and in elastic equilibrium with the film, by using a composition made as follows:

Example A

A rubber compound and a tackiness augmenting agent in the form of a synthetic resin are used. Proportions suitable for ordinary temperate climates may comprise:

	Pounds
Plasticized, first quality plantation rubber, such as clear crepe or smoked sheets	10
Cumaron gum or resin	2
Zinc oxide pigment	½

The cumarone gum or resin is an artificial resinous material coming under the group name of cumarone and indene resins, which is the polymerization product of coal tar derivatives. The above ingredients are compounded on a rubber rolling mill to a plastic condition and then cut to desired body or consistency, using a rubber solvent such as benzol or a petroleum solvent, such as high test gasoline. In lieu of a synthetic resin, I may employ a low melting point natural resin, e. g., Burgundy pitch or pine oil roots. Burgundy pitch is soluble in both alcohol and benzol.

Example B

	Pounds
Plantation rubber	2
Mexican or wild rubber, high in natural resin content	5
Zinc oxide pigment	1

The ingredients above enumerated are compounded on a rubber mixing roll and then cut to the desired consistency in a rubber solvent, based upon the necessary viscosity for spreading this material.

It will be understood that the examples above given are for the purposes of getting the requisite adhesiveness in temperate climates. An increase in resinous material or wild rubber may be made for material to be used in colder climates, and in warmer climates the resin component may be reduced.

The resinous component may also be varied in its characteristics in its reactions to solvents by choice of the resinous material. Thus, for purposes of removal of the adhesive tape from some body to which it may be applied, the adhesive may be made so as to have a resin constituent which is soluble in a desired organic solvent, such as benzol, gasoline, acetone or alcohol. Thus, where it is desirable to make a surgeon's tape which is rendered removable by the application of alcohol, an alcohol soluble resin is added in the examples above cited. Such resin may be Burgundy pitch. This will permit alcohol to be used in removing a piece of adhesive tape from any surface, such as from the skin of a patient, by merely applying alcohol to the adhesive.

The rubber resin compounds in their solvents may be spread upon the backing directly, utilizing a knife spreader to uniformly and equally distribute this material upon the backing. The solvent may thereafter be removed by evaporation, preferably recovering the solvent by some suitable recovery method, leaving the rubber mixture upon the gelatinized cellulosic backing material. The coating so applied is firmly adherent and unified to the backing material and provides a normally tacky and pressure sensitive adhesive coating of a unified character, without in any way curling or warping the transparent gelatinized cellulosic film.

Where it is desired to obtain a clear composite of backing material and adhesive, the adhesive preferred by me for this purpose may be made as follows:

Example C

	Parts
Rubber (double break down latex crepe)	200
Para cumarone resin	85
Wood rosin	10
Liquid paraffin oil	5

(All parts are by weight.)

As a variation from the above, where lack of transparency is not objectionable and the addition of a colored hue to the composite of backing and adhesive material desirable, the formula may be varied as follows:

Example D

	Parts
Rubber (latex crepe)	250
Zinc oxide	225
Pine green light colored pigment	25
Wood rosin	137
Liquid paraffin oil	30

This type of adhesive is normally tacky and pressure-sensitive and has a greenish opacity. It will be understood that where a different color is desired to be imparted to the transparent film backing material, the pigmenting material may be correspondingly varied. Coloration in the adhesive may be used to neutralize or vary objectionable shades or colors in the transparent backing material.

If desirable, dyes may be used, particularly to preserve the transparency and attractive sheen of the composite, or the color (pigment or dye), may be added to the backing material itself. In either method of addition, where dyes are desir-

able and particularly for a clear blue transparency, indamine blue is suggested as of value for this purpose; pigmenting may be accomplished by such material as Prussian blue.

The zinc oxide filler, when used, serves as a reinforcing pigment imparting greater coherency and firmness to the adhesive coating. Colored pigments likewise function as reinforcing pigments and thus have a function in addition to that of coloring the adhesive.

In the examples C and D given above, paraffin oil has been included for purposes of plasticizing the rubber. I have found that in order to obtain maximum transparency and the highest possible bond strength and firmness of the adhesive inter se, the paraffin oil may be omitted.

Such adhesive coating, particularly valuable for this purpose, is as follows:

Example E

	Parts
Rosin	160 to 200
Thin latex crepe rubber	250
Beta naphthol	2.5

Approximately 3248 parts of benzol may be added to the above ingredients to provide a readily spreadable cement, and the ingredients may be incorporated in the benzol without the necessity for milling.

In the example given, beta naphthol has been specified and this is primarily used as an antioxidant. This material is desirable in the above formula, as well as in the other formulae given under A, B and C, in that the adhesives are given longer life.

Other antioxidants are desirable and may be included wherever rubber is used in the adhesive. Such antioxidants which may be used are as follows:

(1) Aldol-alpha-naphthylamine.

(2) Phenyl-beta-naphthylamine.

(3) Symmetrical-di-beta-naphthyl-para-diylene-diamine.

In the examples as above given, the proportions are by weight and variation may be made in the primary materials, as well as the quantity of the ingredients. Thus in the examples given under C, D and E, latex crepe, the rubber component, may be varied by substitution in part or in whole by smoked sheet rubber. Though the synthetic resins, such as cumarone resins above referred to are preferred, various blends of other synthetic resins may be utilized, in part or in whole. To a certain extent, the wood rosin may be substituted by various grades of gum rosin.

In making the adhesives, the rubber base and the resin base determine the tackiness exhibited by the finished product. This relationship, also coupled to a certain extent with the treatment given to the rubber, determines this factor.

In producing a clear adhesive, the relationship of plasticizer (above listed in the form of liquid paraffin oil) and resinous material may be considered as constituting the tack producing phase of the adhesive and up to a certain point the greater the quantity of the tack producing phase that is added to the rubber, the greater the tackiness exhibited in the rubber base adhesive.

In general, for every two parts of rubber base, by weight, one part by weight of the tack producing phase may be added. As indicated above, the resinous content may be varied to increase or decrease the tackiness. However, in order to provide a unified adhesive, satisfactory for purposes of unwinding of the tape from rolls, the resinous content must be retained within certain limits beyond which the adhesive is likely to offset at normal atmospheric temperatures.

In the formulae above cited, double break down latex crepe rubber has been referred to and the treatment of this product alone, as well as the addition of the tack producing phase therewith, will control the characteristics of the adhesive layer. Thus, double break down latex crepe, as contemplated by me above, results from milling latex crepe rubber for approximately fifteen minutes to plasticize the same, with or without heat, and after aging for twenty-four hours, is again plasticized in a mill. At this stage, the material is suitable for addition to the material constituting the tack producing phase. This may be accomplished as follows:

Method A.—200 parts of rubber (double break down latex crepe from the rubber mill as above described) are placed in an internal mixer where the para cumarone resin, wood rosin and paraffin oil (where this is used) are gradually added during the mixing operation to thoroughly incorporate the same into the rubber. No solvent need be used if the mixer is powerful enough to knead these resinous materials into the rubber. When this dry mixing has been thoroughly accomplished, a rubber solvent, such as heptane or benzol, is introduced while the internal mixer is maintained in operation. This action is continued until complete solution results. The quantity of solvent added is in accordance with the means to be employed for spreading this material upon the backing material.

Method B.—200 parts of rubber (preferably double break down latex crepe as above made) are placed in a stirring equipment where paddles agitate the solvent and other ingredients into solution. When 200 parts of rubber have been placed into this mixer, the agitating member is started and a quantity of rubber solvent, such as heptane or benzol, is added to dissolve the rubber. The resinous materials in this particular example, para cumarone resin, wood rosin and the liquid paraffin oil (where this is used), are dissolved in a separate mixer, using an additional quantity of solvent, for example heptane or benzol. When these parts are uniformly distributed and in solution, the parts from each mixer are combined. The quantity of benzol or other solvent is calculated in accordance with the method which may be used for spreading it upon the backing material. The solvent is evaporated after coating or spreading of the adhesive upon the backing material.

In use, the adhesive as above described may be directly applied to the backing or sheets of transparent gelatinized cellulosic materials, previously enumerated, and forms a desirable product.

Where considerable unification is desired between the adhesive layer and the backing material, to assure proper anchorage of the adhesive layer with the backing material, thereby assuring satisfactory unwinding or separation when the composite is formed into rolls or stacks, it is preferred to first coat the sheet of gelatinized cellulosic material with a priming composition. Priming on one surface is particularly effective with sheets formed of regenerated cellulose. The priming operation consists of first coating the backing material before application of the adhesive materials previously described.

The priming composition as preferred by me is a solution of a rubber resin mixture in an or-

ganic solvent in which the solid materials may be varied from 15 to 50% with 85 to 50% of the solvents used. Preferably the solids constitute about 17% of the solution so prepared.

Primer No. 1

A preferred composition comprises:

	Parts
Rubber (latex crepe)	2
Resin (such as pine pitch or wood rosin)	4
A filler, such as whiting (optional)	1

These two or three ingredients, as listed, constitute the solid components in the priming mixture above enumerated.

It is preferred that the deposition product resulting from coating with the priming composition be one whose solid components retard the solvent action of the overlying material when coated thereon as a solution. That is, the solids which may be contained and are present in the primer composition are of such nature that after deposition they are difficultly soluble (only slowly dissolved) in the solvent used for plasticising and coating the adhesive layer. In the example above given, such properties may be imparted to the deposition product by utilizing rubber which has been partially vulcanized, plasticising in a mixing device such as an internal mixer in the presence of heat, sufficient to render the mass sticky and to cause the ultimate primer coating to have a strong bonding action. As an additional operation, a solvent retardent may be added. Though whiting is illustrated, other fillers may be used, such as zinc oxide, which serve as reinforcing pigments to give greater coherency and firmness, in addition to any solvent retarding action which they may have.

Though it is indicated that high grade vulcanized rubber, plasticized to tackiness, may be utilized with some degree of success in the example above cited and identified as Primer No. 1, it is preferred, particularly where transparency is desired, to use the combination of ingredients above identified, and to merely add during the mixing operation the requisite quantity of sulphur and accelerators. The quantity of these ingredients, if any, is merely sufficient to render the rubber component difficultly soluble in the solvent present in the solution of the adhesive composition, so made for spreading purposes, without reducing the quality of this priming coat to unify with the adhesive layer superimposed thereover.

Primer No. 2

Rubber, in the form commonly referred to as latex crepe, with the resin content in the proportions above indicated, has added thereto sulfur and accelerators. These are vulcanized with heat after intimate admixture and, while in the softened condition, are mechanically milled until a sticky mass, soluble in benzol or naphtha, is obtained. The amount of benzol or naphtha added is to obtain the requisite fluidity and these solvents may be added to the solid components in quantities of from 50 to 85% as compared with the rubber and resin content.

The primers above described under 1 and 2 may be further rendered resistant to the solvent action of the overlying adhesive to be applied in a subsequent step, by the use of "Vulcoloc" as a superimposed priming composition. This material is, to the best of my knowledge, a reaction product of rubber and a sulphur bearing acid. Vulcoloc may be applied directly to the backing material prior to the application of the solution of adhesive material. Application of an organic solution of the adhesive does not affect the coating of the Vulcoloc primer as applied.

A material which is suitable as a substitute for rubber in the primer, is an artificial or synthetic rubber known as "Duprene" ("Neoprene") which is a polymerized diolefine compound.

Additional examples of transparent primers which anchor the adhesive coating to regenerated cellulose such as Cellophane, whether waterproofed or untreated (ordinary), and to films of cellulose derivatives (such as cellulose acetate, cellulose nitrate and ethyl cellulose), etc., are as follows:

Primer No. 3

	Parts
Selected tube reclaim rubber	90
Latex crepe rubber	10
Whiting	40
FF wood rosin	140

Primer No. 4

Selected inner tube reclaimed rubber treated further to remove pigment	90
Latex crepe rubber	10
FF wood rosin	140

In the above examples, still better results will be obtained by using, in place of FF wood rosin, a heat-treated wood rosin known as "Solros" wood rosin.

The reclaim rubber and latex (and whiting or other reinforcing pigment when used) are compounded together on the ordinary type of rubber mill and milled for 30–40 minutes. This milled base is then transferred to a heavy duty internal mixer (such as a Baker Perkins Mogul type mixer) and milled for 1–2 hours with 10–20 lbs. steam pressure in the heating jacket. The rosin is then added and mixing is continued for another hour. The jacket steam is then turned off and the mass cooled. The requisite amount of solvent (heptane or benzol for example) is then added, preferably in amount equal to 4–5 parts by weight per part of reclaim rubber. Mixing is continued, generally for about ½ hour, until the whole mass is homogeneous. The resulting primer composition or solution is then ready for application to the backing.

In this method of compounding, the reclaim rubber becomes plasticized by the mechanical working in the presence of heat and air, and is further plasticized by the rosin which is thoroughly incorporated with the rubber.

The reclaim rubber is superior to raw rubber, for use in the primer, for several reasons, including: The primer coating is rendered difficultly soluble in the rubber solvent contained in the subsequently applied adhesive solution, because the reclaim rubber is in a partially vulcanized state which greatly decreases the rate of solution in rubber solvents. The primer coating has a greater bonding action, i. e., becomes more firmly unified to the backing and to the adhesive coating, due to the higher adhesion value of the reclaim rubber resulting from the heating cycle and amount of break down experienced in the reclaiming process. These features are obtained without sacrifice of firmness or coherency of the primer coating, due to the high cohesiveness of the reclaim rubber resulting from its prior vulcanization. If raw rubber were subjected to the same treatment, it would have softness and stickiness but would lack adequate cohesiveness.

The reclaim rubber above referred to in the

formulae for making the primers is preferably made as follows:

Light colored inner tube stock may be utilized, though other forms of culcanized rubber may be used. Where inner tube stock is used, it is chopped up on mill rolls, preferably of the type utilizing breaker members, simulating heavy gear teeth. Rolls of this character operate in pairs, the top one being free to move up and down, while the lower one is stationary. Relative rotation of these rolls serves to chop up the scrap. After the scrap is chopped and torn apart, it is fed to the breakers, which pulverize it further, whereupon it is then passed over a screen and the fine particles separated out. The coarse particles are recirculated through the breakers until they also go through the screen. The fine particles are then charged into horizontal digestors, where they are treated with caustic soda solution, the heating of the stock being carried out under a steam pressure of about 40 pounds while being agitated. This treatment is carried out from 8 to 24 hours, to remove all fibres and free sulfur, and to plasticize the rubber. After digestion as above described, the stock is washed with water until practically free from caustic. The stock is then charged into a continuous belt drying system, where it is dried at a rather low temperature. The stock is then ready for the mill room, where the first operation is to mass these small particles together on a large mill. After consolidation on the large mill, the rubber is then run through refiners, which cause grinding and crushing of any hard particles in the stock. The product is then passed through a strainer in which the rubber is extruded through heavy mill screens into small rod-like forms, after which they are massed together into sheets or slabs.

In some cases the procedure above described may be slightly varied, for example, when certain types of inner tube reclaim are desired, the pulverized scrap is heated in the presence of steam alone, without any caustic. It is thereupon, after being heated, sent directly to the mill room, without any further treatment.

In general, the primer layer is one which makes satisfactory bond with the regenerated cellulose backing material, or the gelatinized cellulosic material constituting such backing material, which may include a waterproofing layer of cellulosic compounds. Such primer may be a layer of a synthetic resin, such as one of the group of polyhydric-alcohol polybasic-acid resins, which makes excellent union with gelatinized cellulosic materials and with rubber. In the event that it is desired to wholly eliminate the above types of primer layer and waterproof the backing material of regenerated cellulose, where this is used, the waterproofing layer over the regenerated cellulose backing material is one which has affinity for the adhesive coating so that the adhesive coating makes better anchorage than would be the case if the regenerated cellulosic film were used alone. Such waterproofing materials which have a primer function, may be a highly plasticized nitrocellulose or cellulose acetate, oxidized and gelatinized drying oils, synthetic resins, such as phenolic condensation resins, or those of water white characteristics, such as urea resins. Those ingredients are chosen, as above indicated, which will be difficultly soluble in the solvent used in the solution of the adhesive layer composition subsequently applied thereto, so as not to result in a weakened structure preventing proper unification between the adhesive coating and the backing material.

Where nitrocellulose is used for the waterproofing layer, it may be highly plasticized by resinous material, which may be used in the proportion of 67–50% to 33–50% of nitrocellulose material. The following is given as an example of a solution which when applied to the regenerated cellulose backing, will form a coating of this type upon evaporation of the solvents:

	Parts
Nitrocellulose, such as "½ second cotton"	9
Xylol	15
Cellosolve (ethylene glycol monoethyl ether)	10
Resin, such as "Rezyl 12" (a condensation product of castor oil and phthalic anhydride)	12
Dammar cut (a solution of 40% dammar resin and 60% benzol)	16

The method of application of the coating materials above described will, to a large extent, depend upon the character of the coating. The primer and adhesive coatings may be successively applied where these are used in solutions of volatile solvents, by an offset process from rollers uniformly coated with the primer compositions or the adhesive composition. With the more viscous composition of either primer or adhesive, these papers may be coated upon the backing by a knife spreader. For the more plastic form of either composition and where unification is desired, calendering or frictioning of these materials may be resorted to, to apply either the priming coat, or the adhesive coat or both.

As an example of one method which may be followed in preparing the composite, the following procedure is recommended. A web of regenerated cellulose film of the desired thickness (which may have been printed on the face receiving the primer) is carried through a set of vertically positioned squeeze rolls. The lower roll has transferred to it, or dips into, the solution of the primer composition. A uniform layer of primer is applied at this point to the film or web of backing material. The web thus prepared travels from the squeeze rolls, to a duct for removing and drying off the solvents in the primer. The web then is directed to a contrivance for coating, at which point a doctor knife or coating knife is used to spread a film of the composition of adhesive material. The composition is directly applied over the primer and the composite as coated is either hung in festoons or travels through a drying duct, at which point sufficient time is allowed for complete removal of the solvent, and to form the deposition product to the desired consistency, due to the solid components present, for tackiness. If heat has been utilized to separate the solvent from the deposition product resulting in the adhesive, the composite thus formed may be cooled and brought to room temperature, to render the product in more convenient form for stacking or winding into rolls. Where wound into rolls, the composite thus formed is then cut or converted into small rolls, suitable for trade requirements.

The adhesive composition as deposited upon the film as heretofore described is one which is normally tacky and pressure-sensitive. It is of particular utility in connection with the lustrous, highly polished backing material described, in that the adhesive layer is in equilibrium with it and will not alter or warp its appearance. As indicated, the adhesive layer is unified in that it

has great adhesion inter se (coherence) and when applied forms a unified product with the backing material. When wound into rolls or formed into stacks, the lustrous surface of the backing will not be modified, no offsetting will occur and ready separation is assured of the entire composite from its adjacent layer.

Where the product may encounter low humidities or low temperatures, it may be desirable to coat the back side of the backing material with a protective coating, such as a thin film of glycerine. In such event, a protective coating is applied which is not disintegrated by or which does not interfere with the adhesive action of the adhesive layer. It will be understood, however, that under ordinary conditions, the composite of backing material and adhesive layer as hereinbefore described is a complete unified product and no further treatment need be made.

The foregoing adhesive coatings are characterized by being water-insoluble and in themselves make for a waterproofing of the underlying base.

Primer No. 5

Casein	3 to 8 pounds, preferably 5 pounds
Water	9 to 40 pounds, preferably 30 pounds
Concentrated ammonium hydroxide	1 to 8 pounds, preferably 3 pounds
Rubber latex (preferably 60% concentration)	3 to 25 pounds, preferably 16 pounds

The characteristic features of the above primer are that it is compatible with the backing material where it is regenerated cellulose, such as Cellophane, flexibilized with glycerine, or such cellulosic material including the cellulosic compounds previously enumerated, coated with waterproofing materials, and is also compatible with any of the previously mentioned water-insoluble pressure-sensitive adhesive coatings.

In the formula of Primer No. 5, I have referred to the use of casein in connection with rubber latex. The casein is more or less water-soluble, especially in the presence of the ammonium hydroxide, and not only facilitates anchorage to glycerine-treated Cellophane when this is used as the backing, but is also compatible with the water-soluble type of adhesive coating when the priming coat is finally dried. This water-insoluble material, as included in the primer, may be supplemented by or substituted by glue, isinglass or gelatin, and other similar water-soluble materials, which not only facilitate the dispersion of the latex but also include the feature of being compatible with water-soluble materials. It will further be noted that though in the preferred form of the primer, where casein is used, it is preferred to use ammonium hydroxide in order to facilitate the solution of the casein, the quantity of ammonium hydroxide may be reduced where other water-soluble materials are used, and merely sufficient ammonium hydroxide is used to prevent untimely separation of the solids of the rubber latex.

The rubber included in the emulsion type of primer is for purposes of having some material compatible with the water-insoluble adhesive coating and water-insoluble backing, and while I have specified in my preferred form of primer the inclusion of a dispersion of rubber latex, dispersions of natural and synthetic resins, particularly those which will give a clear and colorless or water-white residium, may be substituted for the latex.

In general my emulsion type primer may be characterized as a double phase primer to the extent that it includes emulsified ingredients of both water-soluble and water-insoluble characteristics, in dispersed form.

It will be understood that in the application of the primer to the backing material, drying is effected after coating, before the adhesive coating is applied.

The use of water-soluble pressure-sensitive adhesive coatings is described in more detail in parent application Ser. No. 675,291, filed June 10, 1933, and in my companion application Ser. No. 191,261, filed of even date herewith.

The use of a plasticized rubber primer is claimed in my application Ser. No. 191,260; and the use of a cellulose-derivative backing in my application Ser. No. 191,264; both filed of even date herewith.

What I claim is as follows:

1. An adhesive sheet comprising a transparent flexible non-fibrous film backing having smooth lustrous surfaces and a non-offsetting normally tacky and pressure-sensitive water-insoluble adhesive coating firmly united to said backing, said adhesive including a coloring material visible through the backing so that the back surface has a lustrous colored appearance.

2. An adhesive sheet comprising a transparent flexible film backing having non-porous surfaces, and a flexible water-insoluble adhesive coating having a rubbery base and so composed that it is non-offsetting and normally tacky and pressure-sensitive, said adhesive coating being firmly united to said backing and the adhesive and backing being of such kinds that the back surface is inactive to the adhesive coating to a degree permitting unwinding of the adhesive sheet from rolls thereof without delamination or offsetting of adhesive, and the adhesive including a coloring material visible through the backing.

3. An adhesive sheet comprising a transparent flexible non-fibrous cellulosic film backing and a non-offsetting normally tacky and pressure-sensitive water-insoluble adhesive coating containing a reinforcing and coloring pigment firmly united to and visible through said backing, the back surface of the backing being lustrous and inactive to said adhesive coating to permit removal or unwinding from stacks and rolls without perceptible offsetting of adhesive.

4. A transparent adhesive sheet comprising a non-fibrous transparent flexible film backing having non-porous surfaces and a water-insoluble normally tacky and pressure-sensitive transparent flexible adhesive coating, said adhesive coating being firmly united to said backing and the adhesive and backing being of such kinds that the back surface of the backing is inactive to the adhesive coating to a degree permitting unwinding of the adhesive sheet from rolls thereof without delamination or offsetting of adhesive.

5. A transparent adhesive sheet comprising a non-fibrous transparent flexible film backing having non-porous surfaces and a water-insoluble transparent adhesive coating having a rubbery base and so composed that it is non-offsetting and normally tacky and pressure-sensitive, said adhesive coating being firmly united to said backing and the adhesive and backing being of such kinds that the back surface of the backing is

inactive to the adhesive coating to a degree permitting unwinding of the adhesive sheet from rolls thereof without delamination or offsetting of adhesive.

6. A transparent adhesive sheet comprising a non-fibrous transparent flexible cellulosic film backing having non-porous surfaces and a water-insoluble transparent adhesive coating having a rubbery base and so composed that it is non-offsetting and normally tacky and pressure-sensitive, said adhesive coating being firmly united to said backing and the adhesive and backing being of such kinds that the back surface of the backing is inactive to the adhesive coating to a degree permitting unwinding of the adhesive sheet from rolls thereof without delamination or offsetting of adhesive.

7. A transparent adhesive sheet comprising a non-fibrous transparent flexible regenerated cellulose film backing having non-porous surfaces and a water-insoluble transparent adhesive coating having a rubbery base and so composed that it is non-offsetting and normally tacky and pressure-sensitive, said adhesive coating being firmly united to said backing and the adhesive and backing being of such kinds that the back surface of the backing is inactive to the adhesive coating to a degree permitting unwinding of the adhesive sheet from rolls thereof without delamination or offsetting of adhesive.

8. An adhesive sheet comprising a transparent flexible non-fibrous cellulosic film backing having smooth lustrous surfaces and a water-insoluble normally tacky and pressure-sensitive non-offsetting transparent rubber-resin type adhesive coating firmly united to said surface, the composite sheet being transparent.

9. An adhesive sheet comprising a regenerated cellulose film having united thereto a waterproofing coating comprising a cellulose ester highly plasticized with a synthetic resin and providing a smooth non-fibrous surface, and a water-insoluble normally tacky and pressure-sensitive non-offsetting rubber-resin adhesive coating united to said surface, the parts of the composite adhesive sheet being transparent, and so firmly united together that the adhesive sheet may be unwound from rolls without delamination or offsetting of adhesive.

10. An adhesive sheet comprising a transparent flexible non-fibrous film having non-porous surfaces, a coating thereupon of a non-offsetting transparent normally tacky and pressure-sensitive water-insoluble adhesive, and an interposed transparent primer coating unified both to said surface and to said adhesive coating, the composite sheet being transparent and its parts so firmly united that it may be unwound from rolls thereof without delamination or offsetting of adhesive.

11. A transparent adhesive sheet comprising a non-fibrous transparent flexible film backing having non-porous surfaces, a water-insoluble transparent adhesive coating having a rubbery base and so composed that it is non-offsetting and ormally tacky and pressure-sensitive, and an interposed transparent flexible primer coating firmly bonding said adhesive coating to the backing, the adhesive sheet having its parts so firmly united that it may be unwound from rolls thereof without delamination or offsetting of adhesive.

12. A transparent adhesive sheet comprising a non-fibrous transparent flexible cellulosic film backing having non-porous surfaces, a water-insoluble transparent adhesive coating comprised of raw rubber blended with a compatible tack-producing resin in proportions such that the adhesive coating is non-offsetting and normally tacky and presure-sensitive, and an interposed flexible transparent primer coating firmly bonding said adhesive coating to said backing.

13. An adhesive sheet comprising a transparent non-fibrous cellulosic film backing, a coating thereupon of a non-offsetting normally tacky and pressure-sensitive water-insoluble adhesive containing a coloring material, and an interposed transparent primer coating unified both to the backing and to said adhesive coating, the adhesive being visible through the backing and causing the back surface of the backing to have a colored appearance.

14. An adhesive sheet comprising a transparent flexible non-fibrous film backing, a coating thereupon of a non-offsetting normally tacky and pressure-sensitive water-insoluble adhesive containing a coloring material, and an interposed transparent primer coating bonding said adhesive coating to said backing, the adhesive being visible through the backing and causing the back surface of the backing to have a colored appearance.

15. An adhesive sheet comprising a non-fibrous flexible film backing having non-porous surfaces and a water-insoluble normally tacky and pressure-sensitive flexible adhesive coating, said adhesive coating being firmly united to said backing and the adhesive and backing being of such kinds that the back surface of the backing is inactive to the adhesive coating to a degree permitting unwinding of the adhesive sheet from rolls thereof without delamination or offsetting of adhesive, said adhesive sheet transmitting light so that the sheet will not conceal the coloring or markings of surfaces to which applied.

16. An adhesive sheet comprising a non-fibrous flexible film backing having non-porous surfaces, a water-insoluble normally tacky and pressure-sensitive flexible adhesive coating, and an interposed flexible primer coating firmly bonding said adhesive coating to the backing, the adhesive and backing being of such kinds that the back surface of the backing is inactive to the adhesive coating to a degree permitting unwinding of the adhesive sheet from rolls thereof without delamination or offsetting of adhesive, said adhesive sheet transmitting light so that the sheet will not conceal the coloring or markings of surfaces to which applied.

RICHARD GURLEY DREW.

Drew II (Minnesota's Exhibit A)

Drew U. S. Patent 2,177,627.

(See opposite ☛)

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No. 678

IN THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

No. 24207

TECHNICAL TAPE CORPORATION,
Plaintiff-Appellant,

v.

MINNESOTA MINING AND MANUFACTURING COMPANY,
Defendant-Appellee.

Appeal from the United States District Court for the Southern District of New York

Appendix to the Brief of Defendant-Appellee,

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IN THE

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TECHNICAL TAPE CORPORATION,
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Appeal from the United States District Court for the Southern District of New York

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Appendix to the Brief of Defendant-Appellee

Excerpts from Agreed Statement (Deft's. Exhibit B):

• • • • • • • • • •

5. Tech. Tape admits that, prior to the time the complaint was filed, it made, used and sold transparent non-fibrous film-backed pressure-sensitive adhesive tape having the following construction:

(a) a backing of cellophane, which is a transparent, flexible, non-fibrous film backing having smooth, lustrous surfaces;

(b) an adhesive coating prepared from rubber and resin which is normally tacky and pressure-sensitive, is water-insoluble, is firmly bonded to the backing, and is non-offsetting, and is transparent and flexible, the back surface of the backing being inactive to the adhesive coating to a degree permitting unwinding of the tape from the roll without delamination or offsetting of adhesive;

(c) a primer coating interposed between the backing and adhesive coating and firmly bonding the adhesive coating to the backing, the primer coating being transparent and flexible.

* * * * * * * * * *

7. Tech. Tape further admits that it also has manufactured, used and sold tape constructed like that described in paragraph 5, with coloring matter added to the adhesive which is visible through the backing.

* * * * * * * * * *

9. Tech. Tape further admits that, prior to the time the counterclaim was filed, it has manufactured, used and sold tape constructed as described in paragraph 5, except that the adhesive coating is prepared from polyvinyl ether rather than rubber and resin.

Excerpts from Supplemental Complaint:

* * * * * * * * * *

8 (c). Defendant has brought suit in the District Court of the United States in Chicago, Illinois, against a number of parties for infringement of the said patent No. 2,177,627

by reason of the manufacture and/or use and/or sale of pressure-sensitive adhesive tapes and sheets substantially identical with or not materially different from those manufactured and/or used and/or sold by plaintiff herein. These suits are identified as follows:

Minnesota Mining & Manufacturing Company v. Pax Plastics Corp., et al, Civil Action 45 C 846, reported at 65 F. Supp. 303; Minnesota Mining & Manufacturing Company v. International Plastic Corporation et al, Civil Action No. 44 C 202, reported at 62 F. Supp. 34 and at 159 F. 2d 554; and Minnesota Mining & Manufacturing Company v. Neisner Bros., DC, ND, Ill., ED Civ. Action No. 51 C 1789, filed November 7, 1951.

Testimony of **Paul Cohen**, called as an adverse witness by Minnesota:

Direct Examination

By Mr. Haight:

68 Q. Will you state your name, please. A. Paul Cohen.

Q. And you are the president of Technical Tape Corporation, the plaintiff in this case? A. Yes, sir.

• • • • • • • • • • •

74 Mr. Haight: Now, Defendant's Exhibit G for identification, Mr. Morris, is one of those that you furnished to us, made with synthetic adhesive, which I think you can probably identify.

Mr. Morris: Well, ask Mr. Cohen about it. I really do not know those things apart.

• • • • • • • • • • •

77 Q. I now show you two rolls of tape, one marked Defendant's Exhibit I for identification, which is of ¾ inch width and 200 inches long; and the other marked for identification as Defendant's Exhibit J. which is ¾ inch, 400 inches long, and ask first do you identify those as
78 cellophane tape manufactured and sold by Technical Tape. A. Yes, I do.

Q. Can you identify as to each what the type of adhesive is? A. I will endeavor to do so. Without being absolutely certain, I believe that this is the rubber type (indicating).

Q. That is Defendant's Exhibit I for identification, is that correct? A. Yes, sir.

Q. Now as to Defendant's Exhibit J. A. This I believe to be the rubber type, too.

• • • • • • • • • •

79 Q. And does the person who orders from you, or has such a person to your knowledge in any instance specified the adhesive that person desires? A. Not to my knowledge.

Q. That is to say the ingredients of the adhesive. A. Not to my knowledge.

• • • • • • • • • •

81 The Court: I notice that this last exhibit for identification contains two exhibits of identical size.

The Witness: Yes.

The Court: Would you pack the plastic adhesive type and the rubber adhesive type indiscriminately in a box?

The Witness: Normally you would not mix the two.

82 The Court: But you make no point of keeping them separate, do you?

The Witness: Not unless there was some specialized purpose.

• • • • • • • • • • •

Q. I now show you a can which purports to be "Tuck" Cellophane Tape, ½ x 2592, two rolls. It contains two rolls of a light green tape, and I ask you if you can identify that as product made and sold by Technical Tape. A. No, I cannot so identify it. It does not have our printing on the core. It may be our tape, but it doesn't have our printing on the core and I cannot be sure as to these rolls.

83 The Court: Is that the only way you have been able to make identification of the product, by the printing that appears on the core?

The Witness: Yes.

The Court: Absent the core and just being shown the product and upon an examination of the product itself you cannot identify it as your product?

The Witness: No, it has a blank core and I would find it very difficult to distinguish our tape from the others. In handling the roll of tape I can, once we are assured it is our tape, I can tell by the unwinding characteristics of the tape because there is a rachety sound which is characteristic of the synthetic type adhesive. On other rolls or other types it would be the transparency of the product, the plastic being all synthetic and clearer, and that is sometimes visible. That is the method that I would try to use in distinguishing.

The Court: But if you have a rubber-resin adhesive, can you distinguish your product from that manufactured by any other company?

The Witness: No, I couldn't tell with any degree of certainty that a given piece of tape or tape which is labeled

with the core removed, whether it was our type or
84 Minnesota Mining's or the Industrial Tape Corporation's, which is a manufacturer in New Jersey and a licensee of Minnesota Mining.

• • • • • • • • • • •

86 Q. Now I have in my hand just a strip of cellophane tape, transparent, about seven or eight inches long, and ½ inch in width, I believe, and as I understand it, you cannot tell by looking at that whether you made it or 3M made it or what the ingredients of the adhesive are, is that correct? A. No. I could offer you a reasonably good guess that this is plastic adhesive of our manufacture or Minnesota Mining's manufacture. I could not tell which of the companies. Well, I don't know if Industrial Tape Corporation has ever made a plastic adhesive, but if I were to be given a strip or being given this strip I would say that this is probably plastic tape adhesive of the
87 synthetic type as we have referred to it here, but I could not tell you who made it.

• • • • • • • • • • •

94 Q. Now I will read from page 26A of the record on appeal in this case, from your affidavit as follows:

"Since about two years"—and you perhaps want to follow this—"Since about two years prior to November 17, 1951, the defendant corporation was informed by me on various occasions that Technical Tape Corporation, even if it did not obtain a license from defendant, would manu-
95 facture and sell pressure-sensitive adhesive tape or a type which I was advised by Mr. Hirschman, would be regarded by defendant as an infringement of their Drew patent No. 2,177,627, in view of the position taken by the defendant in the several suits for infringement brought by defendant under such patent."

A. Yes.

Q. You so swore, didn't you? A. Yes.

• • • • • • • • • • •

Redirect Examination

By Mr. Haight:

108 Q. So that for more than two years before this suit was filed, you had advised Minnesota Mining that you were going to make a pressure-sensitive cellophane tape whether they gave you a license or not? A. We so advised them.

Q. Regardless of whether you could get a license? A. We so advised them.

• • • • • • • • • •

Testimony of **Paul Cohen,** recalled as a witness by Technical.

• • • • • • • • • •

(Record pages 2979 et seq.)

Cross Examination

By Mr. Haight:

2979 Q. Mr. Cohen, you have many, many, many jobbers or distributors who also handle Minnesota Mining products, don't you? A. Yes.

2980 Q. Thousands, don't you? A. We have, I think, 3,000 active accounts. I would say that in the wholesale paper merchant category there might be several hundred. I couldn't give you the exact figure, Mr. Haight. This was the category to which I was referring.

Q. You have several hundred in that specific category? A. Yes.

Q. And of those several hundred in that category, how many of them are also Minnesota distributors? A. I can't say exactly. I might offer the estimate that the major part

of them probably sold Minnesota Mining tapes, at least up to that period of time where this pattern began.

• • • • • • • • • • •

2985 Q. You don't distinguish on the word distributor jobber, you aren't drawing any distinction there, or do you draw a distinction between distributor and jobber? A. No, in the answer I had given you, Mr. Haight, a jobber and a distributor is about the same.

Q. All right. Aren't there accounts of yours who purchased "Tuck" tape for resale right in New York City itself, and Brooklyn, who also handle Minnesota Mining products? First I will ask, aren't there such? A. Which
2986 type of distributor?

Q. Well, paper companies and so on, stationers. A. I would guess that there are some, but I am not certain; I would just offer as a guess that there probably are some.

Q. As a matter of fact, there are over a hundred, aren't there? A. Oh, we don't have a hundred distributors in this area. Minnesota may have, but we don't, not to my knowledge.

Q. Who would be best informed on that? A. I guess there are records that we — I could make myself better informed if you desire.

Q. I wonder if I gave you a list could you have someone check that to see if you sell to any of these people? A. Yes, sir, I could do that.

Mr. Haight: I will mark the original of that as A-5.

Q. I will give a copy of that to you. It is entitled, Distributors New York Area Presently Handling Both Scotch and Tech Brand Tape.

• • • • • • • • • • •

3701 Q. Mr. Cohen, on this jobbers list, you recall that you stated you could determine, at least in some instances, whether these jobbers were jobbers or distributors of 3M, as well as Tuck. Now do I take it that in all instances you found them to be distributors of 3M where they were also distributors of yours? A. No, we were not able to determine it in all cases.

Q. In most cases was that true? A. I can't tell
3702 because in many cases our records did not show and inquiries were not responded to with sufficient detail that I could be sure.

• • • • • • • • • •

Q. And just glancing at this list, which is a copy of our Exhibit A-5 for identification, I notice the check indicates that Tuck is selling to the particular jobber and that "F" indicates not selling, and I notice that there are appreciably more checks than there are X's. A. Well, I think
3703 I should explain this to you. As I recall there were —there is 136 names here, and when I said, "Not selling", I meant not selling currently.

Q. All right. A. And describing currently by searching our records to determine those to whom we sold or did not sell in the period to which our records are now closed—October, November and December of that year, and in that quarter, among those names, 136, we found 79 whom we are selling, and 57 whom we apparently have sold but are not currently selling.

Q. But as to all of them, you are either selling or did sell at one time? A. At one time we apparently sold all of them.

Q. Now, you testified before that you could check from your records as to whether they were also distributors for

3M. Did you have that check made? A. We had that check made and find that most of them are or were distributors for 3M, but I could not answer for everyone, because in many cases the distributors would not disclose the information, but I would say—I think I am correct in saying that most of them, most of them, the great majority were or are 3M distributors.

• • • • • • • • • • •

3704 The Witness: I do believe that almost all, if not all, are or were 3M distributors. I just say our records are incomplete, but for all we did find and where there was information, they were 3M distributors. It is just that I did not have it in each and every case, but I do believe that all of that list—that you are correct, that those 136 accounts all or very close to all had handled "Scotch" tape.

Mr. Haight: Well, I think that is probably enough.

The Court: And 79 of that 136 you know definitely currently handle "Tuck" tape?

The Witness: Yes. Our records indicate that we have in the past sold these same 136 accounts and are con-
3705 tinuing to sell 79 of them. It seems that the others have escaped from the fold in this period that we checked.

• • • • • • • • • • •

3706 The Witness: I might also say it is possible that some of these 57 accounts may purchase again sometime next year. It is very unusual for a distributor to draw a blank purchase for a three-month period. It is possible that one or two or so may come back. I can't say. But no orders have been forthcoming. Normally we expect a
3707 distributor within a quarterly period to purchase at least once, but this has not occurred.

The Court: But the fact that 55 of the 57 to whom you didn't make any shipments during this last month period, didn't make purchases from you, has no significance as far as 3M is concerned, as far as you know?

The Witness: As far as I can definitely say it has not, your Honor. I cannot state so with any definiteness.

Mr. Haight: I will ask that the list be marked as Defendant's Exhibit J-5 for identification, I believe it is. That is a duplicate of A-5, except it has the check marks on it.

* * * * * * * * * * *

3712 Q. Mr. Cohen, you said that you had other distributors in the area covered by the exhibit for identification J-5 and among those other distributors in this area there are also some who handle 3M products
3713 also, aren't there? A. Yes. You mean 3M has additional distributors other than these?

Q. Yes. A. Oh, yes, I am sure they have.

Q. And some of those additional distributors also are distributors of "Tuck" products? A. I would have to do another checking job, as I have done here.

Q. But so far as you know, you have—I will put it this way broadly: You know that you have many more distributors who are also distributors of 3M than are shown on this list which you checked? A. I couldn't say many more; there are some more, I believe. I think there would have to be. I don't think your own sales force described a method you collected; it could be that comprehensive. There must be some more. I would have to do a much more exhaustive job to be accurate.

Q. That is true not only in this area covered by this exhibit but in other parts of the country also? A. Yes,

there are distributors who handle both lines in other parts of the country.

• • • • • • • • • •

Excerpts from Defendant's Exhibit SSSS, the testimony of Paul Cohen in another action, introduced in lieu of putting Mr. Cohen on as a witness on the matter involved, and introduced in full at the request of plaintiff's counsel: see transcript 1260-1263.

(Page numbers at left refer to pages of deposition transcript.)

Direct Examination

By Mr. J. Howard Carter:

2 Mr. Carter: For record purposes, may we consider marked in evidence as Plaintiff's Exhibit 1 a copy of Justice Eager's order issued out of this Court on the 13th day of September, 1954, permitting within the limits of that order, the examination before trial of the defendants.

The Referee: Yes, it is so marked.

Q. You are Mr. Paul Cohen? A. Yes.

Q. And what is your addres , sir? A. 197 Sutton Manor, New Rochelle.

3 Q. What is your business or occupation? A. I am chairman of the Board of Technical Tape Corporation.

Q. What business is Technical Tape Corporation in? A. Technical Tape Corporation is a manufacturer of paper and plastic products.

Q. Would you say Technical Tape Corporation manufactures and sells pressure-sensitive adhesive tapes? A. Yes it does.

Q. Is Technical Tape Corporation a New York corporation? A. Yes, Technical Tape is a New York corporation.

Q. When was it formed? A. In the middle of September 1948.

Q. Forty what? A. Forty-seven.

Q. Were you one of the original incorporators? A. I believe I was.

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Q. Initially, after the incorporation, did you hold an executive office in it? A. Yes I did.

Q. What office was that? A. I was the president.

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Q. Was Paul Shalita connected with the Technical Tape Corporation initially? A. Yes he was.

Q. In what capacity? A. He was the head of laboratories.

Q. Is he a technical man? A. Yes.

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Q. Have you had the benefit of any technical education? A. No I have not, just undergraduate courses of a technical nature. I wouldn't consider myself a technician.

Q. Did you study any chemistry? A. Very little bit.

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Q. Had you know Paul Shalita for some time prior to 1947? A. Yes I had.

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Q. Can you tell us whether or not prior to 1947 Paul

Shalita had ever made or manufactured any pressure-sensitive adhesive tapes? A. Yes he had.

8 Q. Where? A. At two companies, the Cofax Company, and at a company called Melplast, which was a successor to Cofax, as I am informed.

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16 Mr. Carter: I can save you some time in overcoming Judge Close's objection by stating I refer to U. S. letters patent No. 2,177,627 which is commonly known at the cellophane tape patent or Drew patent.

The Referee: All right, you may answer.

A. I would like a clarification by what you mean 'have access to'?

Q. Did you look at it? A. Yes I looked at it.

Q. Did you analyze it? A. Yes I analyzed it.

Q. In analyzing and looking at it, what purpose did you have in mind?

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A. I would say, sir, that I looked at that patent on probably one hundred different occasions with all different sorts of purposes in mind. There was a time early in business, when I perused several hundred pressure-sensitive adhesive tape patents merely for information purposes, with nothing in mind except to read what was there. There were other times I read it with different purposes in mind. I think I find it difficult, but if you wish me to, on each such 17 occasion I will tell you to the best of my knowledge what I had in mind.

Q. We weren't referring to the hundreds of other times you may or may not have looked at the patent; I believe my

question was addressed to 1947? A. You said 'or thereafter'.

Q. Let's speak of 1947 now. When you looked at the basic patent you testified, I believe, you were looking for information? A. Yes, just for information.

Q. Were you looking for manufacturing know-how? A. I wouldn't say I was looking for anything, merely awareness of what was patented at that time.

Q. What information were you looking for when you analyzed the basic patent? A. I merely wanted to be aware of what patents were in the field. Suppose we were to run into some interesting development—I would want to know if someone had previously patented it. It was my duty to know what the patents were.

Q. Did the basic patent cover the method of manufacturing cellophane tape?

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A. Yes.

Q. Well, now, when you looked at it initially in 1947 18 did you discuss it with Shalita? A. No.

Q. Did you ever discuss the basic patent with Shalita? A. Yes, some time thereafter.

Q. When? A. I can't pinpoint that.

Q. Approximately? A. There were many discussions with Mr. Shalita.

Q. About the basic patent? A. Yes.

Q. Generally speaking, what was the nature of those discussions? A. Generally, the nature of those discus-

sions were discussions as to our appraisal of the validity of that patent.

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22 Q. Mr. Cohen, approximately when was it that Technical Tape Corporation actually got into production? A. It was in the spring of 1948.

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23 Q. Now, generally speaking, your first production effort was masking tape, was it not? A. Yes.

Q. Did you make masking tape throughout the years 1948, 1949 and 1950? A. Yes.

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31 Q. Did there come a time in 1951 when you or you and Shalita decided to augment the company's technical staff? A. Yes.

Q. When was it that that decision was arrived at?

A. About the turn of the year 1950-1951, some time around that.

Q. Did you discuss that proposed course of action with
32 Shalita? A. Yes, we discussed it.

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33 Q. I will be much more specific in future questions. Is it fair to state that at the time you and Shalita had this conversation, Technical Tape had been producing pressure-sensitive adhesive tapes for approximately two years and nine months? A. Approximately that, yes.

Q. Up to that point had Technical Tape manufactured, produced and sold for commercial consumption any cellophane pressure-sensitive tape? A. No.

Q. Had Technical Tape indulged in any research on

the method of manufacturing and producing cellophane pressure-sensitive tape? A. Yes.

Q. Was that research conducted by Shalita? A. I believe it was. It was conducted in the laboratories under his general supervision. I don't know which personnel did it, but it was under his supervision.

Q. As of the late winter or early spring of 1951 did Technical Tape have plans to enter the manufacture, production and sale of cellophane tape? A. Yes.

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34 Q. Now, do you know the defendant Frederick C. Beyer? A. Yes.

Q. When did you first hear of Beyer? A. I can't recall when I first heard of Beyer.

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35 A. I am trying to refresh my memory on it for you. As I recall, this discussion took place shortly before I met Fred Beyer. I met him to the best of my recollection about I would say the late spring of 1951, and Mr. Lux and I discussed Mr. Beyer just before that time.

Q. Well, now, who initiated this discussion about Beyer, you or Lux? A. I don't recall.

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47 Q. At the time you gave Lux the green light to contact Beyer for your purposes, you knew that Beyer was the assistant quality control supervisor of the 3M Company at their Bristol, Pennsylvania plant? A. No, I didn't know his title. I knew he was in quality control working in Bristol.

Q. For the 3M Company? A. Yes.

Q. When was it that you first saw Beyer? A. Sometime towards the end of March or early April of 1951.

Q. Where were you when you saw him? A. At my home.

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49 Q. So you want us to understand that as of that night in your home as of late March or early April, you consummated an employment agreement, oral or otherwise, with Beyer to come to work with Technical Tape? A. Yes.

Q. It was the first time you saw him? A. Yes.

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50 Q. Did he tell you he was a graduate of the University of Minnesota? A. Yes.

Q. Told you he had a degree in chemical engineering? A. I don't recall.

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51 Q. Was there any mention of Beyer's contribution to the improvement of the quality and production methods of
52 the 3M products? A. His contribution?

Q. Yes. A. Yes, he said he was capable at that, and had done that work very well.

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Q. Did he tell you that he was the assistant chief supervisor of quality control at the Bristol plant? A. Again, I can't recall the title. He told me, I think he said he was in charge of quality control, I don't recall the word assistant, he was highly experienced, and at various times during the operation of the plant, he was responsible.

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55 Q. You know of the existence of a so-called restrictive technical agreement that Minnesota had with its key em-

ployees? A. I didn't know it until I interviewed Beyer.

56 Q. When did you first find out that such an agreement existed? A. I think Beyer was the first one to tell me he had such an agreement. I didn't know at any time it was a general agreement.

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Q. What did he tell you about it? A. He told me he had a technical agreement, and described the nature of the agreement.

Q. What did he describe about it? A. He had an agreement which prevented him for a period of time after termination of his employment with Minnesota Mining with working for a competitive company.

Q. What did you say? A. I said I would phone our lawyer and ask him whether such a contract would be binding upon either of us.

The Referee: Did you regard yourself as a competing company? A. Yes I did.

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57 Q. So you want us to understand that Beyer told you the only restriction contained in this technical agreement was one against working for a competitor for a year after he left the 3M Company? A. Beyer did not say that was the only condition. He said he had an agreement and the agreement contained a clause which prevented him from working for a competitive company for a year after his termination of employment with Minneesota Mining. He didn't say there was nothing else in the agreement.

58 Q. That indicated to you there was some restriction on Beyer's services? A. Yes, it indicated there might be.

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63 Q. You knew as a business man, did you not, back in 1951 that Minnesota took great pains to protect its secret formulas and processes, didn't you? A. I did not.

Q. Did Beyer acquaint you at any time with the security provisions in effect at the Bristol plant of the 3M Company? A. He did not until after this litigation was started.

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The Referee: What did you think the purpose of the 3M Company to exclude a former employee from engaging in employment with a competing company, was? A. My opinion, sir?

The Referee: What was the reason for their making such
64 a contract, that you are not to work for a competing company; there must have been something behind it to activate such an agreement.

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68 Q. As of 1948 and the end of 1952, you hadn't sold one foot of pressure-sensitive cellophane tape, had you, not one foot? A. As of when?

Q. As of late 1951? A. No, we sold cellophane tape in 1951.

Q. When? A. As I recall it, our first sales were October or November of 1951.

Q. That was your first venture into the cellophane tape field? A. First sales.

Q. That was your first venture, that was a few months after Beyer came with you? A. Yes it was.

Q. When you were talking to Beyer after this litigation started, about the security or lack of security that the 3M

Company took to protect its trade secrets, did he tell you these standard books allegedly lying around were all in code? A. Yes he did.

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69 Q. Did he tell you those many people who had access to the standards book in code form were key men like himself?

A. They were available to anyone in the plant to go and look at them.

Q. Who understood the code? A. I believe so, apparently.

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70 Q. Was there any agreement between you and Beyer that night as to the amount of notice that would be reasonable to the 3M Company, and when he would go to work for Technical? A. No there was not, there was no emergency situation involved. It was a matter, he would go back, and there would be two, three or possibly four weeks.

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71 Q. Up to that time as far as you know, had Beyer and Shalita ever met? A. I don't think so.

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Q. In any event, you discussed with Shalita his employment, you think the following month? A. Within the next few days. I told Paul I knew him to be experienced in quality control in Minnesota Mining, and he had been interviewed by me and I thought his qualifications were good, and I had hired him to head our quality control department.

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72 Q. Did you tell Shalita this man was coming to you from the 3M Company? A. Yes.

Q. Did you tell Shalita what qualifications Beyer said he had? A. I told Shalita that he had had good quality control experience at Minnesota Mining.

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73 Q. When did he come to work for the company? A. I think that date was May 28th.

Q. 1951? A. 1951.

Q. That was approximately seven or eight weeks after you had talked to him initially, wasn't it? A. I think it was about six weeks.

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74 Q. Did you have any communication with him directly or indirectly during that period? A. I think there were either one or two telephone conversations.

Q. Between you and Beyer? A. Yes.

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Q. Did he tell you that he had falsely stated to the 3M Company that he was going to work for a paper company? A. No, he did not.

75 Q. When did you learn that for the first time? A. I learned for the first time that he had stated that after this litigation started, although—

Q. Are you finished? A. Yes I am finished, although I had suggested to him to tell the 3M Company that he was going to work for a paper company, but I didn't know he had done it until after this thing started.

Q. When did you tell that to Beyer? A. At the time of the interview as best as I can recall.

Q. In other words, at your home that night in late March or early April after you hired Beyer, you had suggested to

Beyer that he tell the 3M people that he was going to work for a paper company? A. Yes.

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76 Q. As I understand it, you suggested to Beyer that he falsify to the 3M Company for that reason? A. We were essentially a paper manufacturing company.

The Referee: Is a business such as yours known in the manufacturing world? A. It is in the general field, we convert paper into paper tapes, and generally this is a paper company.

Q. Is plastic tape a paper product? A. No, we were selling it through the paper company.

Q. When Beyer called you on the telephone, or you called him on the occasion we were discussing before, did he tell you that he had carried out your suggestion and told the 3M people he was going to work for a paper company, whose name he gave them? A. This I do not recall.

Q. Did you suggest to Beyer the name of the paper company he gave to the 3M? A. I might have.

Q. What name did you suggest? A. Lloyd's Paper.

Q. They don't make any kind of pressure-sensitive tape? A. No.

Q. Never did? A. No they did not.

Testimony of **Edward C. Lake**, a sales manager in the Film Department of duPont, called by Minnesota.

(Record pages 965 et seq.)

Direct Examination

By Mr. Haight:

965 Q. Will you state your name, please. A. Edward C. Lake.

Q. Where do you live, Mr. Lake? A. Hockessin, Delaware.

Q. What is your occupation? A. My occupation is manager converter sales film department, E. I. duPont de Nemours & Company.

Q. How long have you been connected with the duPont Company? A. Since August, 1924.

Q. At that time what were your duties? A. My duties as a salesman with headquarters in Boston.

Q. Then can you just quickly give us a summary of what you have done since then with the company, Mr. Lake? A. Then from Boston within a year I came to New Jersey, was salesman there, then as special representative working with salesmen in the field, then as New York district manager, then as assistant director of sales, and that brings me up to my present position.

966 Q. Now, during all that time what product or products have you been dealing with? A. Cellophane the entire time, and more recently the newer films.

Q. Back when you were first employed in 1924 how many salesmen were then selling cellophane for duPont? A. There were eight original salesmen and I was one of them.

Q. And you were one of the original salesmen, one of the original eight? A. That is right.

Q. At that time in 1924 was there any other company in the United States selling cellophane? A. Yes, there were two or three brokers I believe, or jobbers.

Q. Would you please explain what you mean by brokers? A. Well, a broker is a person who buys cellophane and resells it. You might call him a jobber.

Q. They did not buy it from duPont? A. No, they imported the film.

Q. Were you personally familiar with cellophane at any time prior that you started to work for duPont?
967 A. Why, yes, but only in the way of buying packages wrapped in it, such as boxes of candy and cosmetics occasionally.

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Q. Now, when you started selling cellophane in 1924 what were the uses then made of the cellophane, if you know, by your company? A. Well, there were uses already established with high grade boxes of candy and cosmetics and perhaps a very few pharmaceuticals.

968 Q. What type of cellophane was duPont selling in 1924, Mr. Lake, when you came with the company? A. Plain transparent cellophane only.

Q. And when did the moistureproof cellophane come on the market? A. The moistureproof came on the market in 1927.

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969 Q. Now, can you tell us how your customers in general sealed packages first in 1924 using the plain transparent cellophane? A. Well, when I first went to

New England in 1924 I found it a very common practice among the candy manufacturers of using a sponge with water that did not give a satisfactory seal. However, it was used. Then usually some gum labels were put on the end. Then later they started to use a gum arabic solution.

Q. When the moistureproof cellophane become available, how was that sold? A. Well, that was in 1927. We did not have any satisfactory adhesives. Do you refer to the time when we introduced the moistureproof cellophane?

Q. Yes, right at the time that you introduced the moistureproof cellophane. A. Well, I might say that I was delegated the job of introducing the moistureproof cellophane to the trade in 1927 in cooperation with the salesmen.

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970 The Witness: I said that in 1927 I was delegated the job of introducing the moistureproof cellophane in cooperation with the salesmen to the trade, and the prospective customers were those to whom we had tried to sell, many of them, cellophane but whose product required protection from moisture loss or absorption and, of course, PT--plain transparent film did not produce that quality so that we tried to demonstrate the keeping qualities of the moistureproof, of this new moistureproof cellophane by taking a product such as a cake or part of a cake, or a cut cake that you want to keep fresh, and you would overwrap the cut cake or the piece of cake usually by using a confectioner's fold or a druggist's fold, turning it down, and then pulling underneath and using a band, an elastic band to hold the cellophane close to the product, and then advising the customer to observe the condition of the cake every day, or every two or three days, or the following week, to verify our claim that we had a moistureproof film.

Q. Did you have any adhesive at that time when you introduced the moistureproof cellophane? A. Not to the best of my knowledge.

971 Q. That is, no satisfactory adhesive for it? A. That is correct.

Q. Did you finally get such an adhesive? A. Yes, I believe that it was early in 1926 when we produced cellophane on a semi-working machine, that is, moistureproof cellophane on a semi-working machine that we sent samples of, sent samples of that film to adhesive manufacturers to find out if they had an adhesive that would properly adhere, and in due time we got replies back indicating that there was no adhesive satisfactory for the purpose. Later, I don't know just what date, we and the company tried to develop an adhesive.

Q. Now, was an adhesive then developed? A. Was an adhesive then developed was your question?

Q. Yes. A. Yes, there were some adhesives developed. We developed two or three but they fell far short of being satisfactory.

Q. What were the deficiencies? A. Well, they all had an odor and they all took considerable dwell time for the tacking, or for it to take hold.

972 Q. What do you mean by "dwell time", Mr. Lake? A. Well, that is the length of time that it takes for the adhesive to take hold or whatever means of adhesion you are applying.

Q. Were those adhesives employed with food products, for example, where the smell would be noticeable? A. Yes. As a matter of fact, it is usual on food products that you

use moistureproof film where there is protection needed for moisture loss and absorption.

Q. Well, how did they seal their packages generally in the food industry? A. Well, in those days as I remember it they started out by—oh, for instance, packaging cup cakes or a cake, and then they would use essentially the confectioner's fold or the druggist's fold and connecting the end folds underneath or up on the sides, and then taking a band, a paper which was usually branded for identification, an adhering band and holding the cellophane on the package in that manner.

Q. Were there any difficulties in using the paper band around the package to hold the fold in place? A.
972a Yes, there were considerable difficulties.

Q. What were they? A. Well, that band had a tendency to slide off and many of them did slide off.

973 Q. Did you subsequent to that time learn of a satisfactory method of sealing the moistureproof cellophane? A. Yes.

Q. What method or methods did you later learn of? A. There were some improvements in adhesives but we heard of course of "Scotch" tape or pressure-sensitive tape. That was—that came into being.

Q. When did that "Scotch" cellophane tape come to your attention? A. It first came to my attention in 1930 or 1931.

Q. And could it be used to provide a satisfactory seal for the moistureproof cellophane? A. It could, very satisfactory.

Q. Was it so used? A. It was so used.

Q. What effect if any did the advent of the transparent pressure-sensitive cellophane tape have on the business of your company? A. Well, it provided a new market for cellophane, in the amount that was used in the tape itself, the backing material, and it also provided a simple and very attractive means of closure for users, and it was always thought that it influenced the sale of cellophane.

974 Q. Could it be used both with the plain transparent and with the moistureproof cellophane? A. It could.

Q. And was it so used? A. It was.

Q. Did duPont bring out a moistureproof cellophane that could be heat-sealed? A. Yes. We introduced a moistureproof cellophane, a heat-sealed moistureproof cellophane in 1932.

Q. Mr. Lake, I am showing you a document which has been marked for identification as Defendant's Exhibit XXX. At pages 119 to 121 there appears what purports to be an affidavit of Edward C. Lake. I ask you if that is your signature that appears there on page 121. A. It is.

Q. Now in that affidavit, on page 120, there is a paragraph at the bottom of the page, and I will read it:

"'Scotch' cellulose tape filled an existing need when it appeared in the latter part of 1930, and was immediately accepted in the trade. It provided an attractive seal for packages wrapped in moistureproof cellulose film, the
975 transparent tape being clear and the colored tape having an attractive glossy colored appearance. It could be readily applied, without moistening or other activation, stuck firmly, and yet could be peeled off without leaving a residue. The 'cellophane' sales organization of the duPont company was pleased when the 'Scotch' cellulose tape appeared, not only because it provided a new market for 'cellophane' cellulose film, but because users of moisture-

proof cellulose films for wrapping purposes were provided with an attractive and effective quick-sealing tape for hand sealing thereof."

You took oath to that in December 1938, is that correct? A. I think that is right.

Q. And your views in that regard, have they changed? A. No.

Q. And on the top of page 121 of Exhibit XXX this paragraph reads:

"To the best of my knowledge and belief, prior to the appearance of the 'scotch' cellulose tape, there was no transparent pressure-sensitive adhesive tape available or
976 known, nor any kind of pressure-sensitive adhesive tape having a non-fibrous film backing, nor having any kind of transparent backing. To the best of my knowledge and belief, the Minnesota Mining & Manufacturing Company pioneered the development of such adhesive tape."

Has your opinion in that regard changed, or your knowledge, in the intervening years? A. No.

Cross Examination

By Mr. Spille:

Q. Perhaps Mr. Haight asked you this, Mr. Lake, but are you now employed by duPont? A. I am.

Q. In what capacity, sir? A. As manager of converter sales.

Q. Are you appearing as a voluntary witness for Minnesota Mining or were you subpoenaed? A. Well, to a degree, you might say it was voluntary.

977 Q. To what degree, sir? A. Well, I understood that I would be subpoenaed and have to give a deposition in Wilmington, so for the convenience of all concerned, I came to New York.

Q. Who conveyed the information to you that you would be subpoenaed and have to give a deposition in Wilmington? A. By the attorneys of Minnesota.

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Q. Now the plain transparent or normal cellophane is quite an old product, is it not? A. Why, I would judge it to be, yes.

Q. Would you say it goes back as early as 1912? A. I have no proof of that, but I understand it was made about that time, in France.

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978 Q. And do you know who was responsible for the commercial development of normal or plain cellophane in France, say, prior to World War I? A. The French interests, and I believe it was Dr. Brandenberger.

Q. Dr. Jacques Edwin Brandenberger? A. I think that is his first name.

Q. When duPont sold or manufactured normal cellophane—I believe you testified it started in 1924, is that correct? A. That's right.

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982 Q. Now at that time, and I am referring to 1924-25, did plain or normal transparent cellophane compete with other wrapping materials such as paper and glassine and cloth and the like? A: It did.

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987 Q. I believe in your direct examination, Mr. Lake, you stated that gum arabic solutions were used to seal normal or plain cellophane, is that correct? A. That is correct.

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990 Q. Now, Mr. Lake, I believe you testified on direct examination that in 1926 the duPont Company after doing some pilot plant work, or some production runs on moistureproof cellophane, inquired of adhesive manufacturers what adhesives could be used on that moistureprooof cellophane, is that correct? A. That is correct.

. . . . . .

991 Q. Who did the solicitation, do you know? A. You mean of asking the manufacturers?

Q. Yes. Who was the man? A. I don't know. It was done by the technical organization.

Q. Well, how do you know they did it at all? A. Well, we were sadly in need of a moistureproof or an adhesive for moistureproof cellophane and we were very anxious to try to find out if there was one available.

Testimony of **Ralph C. Schilly** of the duPont Company, called as a witness by Technical.

(Record pages 2274 et seq.)

Direct Examination

By Mr. Spille:

2274 Q. Mr. Schilly, what is your position? A. I am a development engineer for the Film Department.

Q. In what company? A. With the duPont Company.

Q. In Wilmington, sir? A. In Wilmington, Delaware.

2275 Q. How long have you been employed by duPont or any of its subsidiaries? A. For approximately thirty years.

Q. By which company were you first employed? A. By the duPont Cellophane Company of Buffalo, New York.

Q. In what capacity, sir? A. As a research chemist.

Q. Do you have a technical education? A. Yes.

Q. What is it, please? A. I beg your pardon?

Q. What is your technical education? A. I have a Bachelor of Science degree from the New York State College of Forestry of Syracuse University.

Q. When did you receive that degree, sir? A. In June 1924.

Q. Did you thereafter, soon thereafter, become employed by the duPont Cellophane Company? A. Yes, sir.

Q. What work were you assigned to in 1924 at the duPont Cellophane Company? A. My work consisted
2276 of certain research problems on the manufacture of regenerated cellulosic film in the plant. In addition, I was doing work on attempting to obtain improved adhesives for plain transparent cellophane.

Q. This is 1924? A. This is 1924.

Q. Were you the only man at duPont Cellophane Company engaged in that type of work? A. At that time I was the only one doing any work on adhesives, but there were other men who were employed for doing research work on cellophane.

Q. Did you ever met Dr. Jacques Edwin Brandenberger? A. I did when he was in Buffalo.

Q. Do you know what reputation or what capacity Dr. Brandenberger had at Buffalo? A. I believe that he was the original producer of cellophane in France. As a matter

of fact, he was the original inventor, I believe, and he was there at that time to be sure that the cellophane plant was running satisfactorily as far as their standards, the French standards, were concerned.

2277 Q. Now in 1924, 1925 and 1926 was duPont Cellophane Company commercially manufacturing plain transparent cellophane and selling it? A. Yes, they were.

Q. And was it being sold for packaging purposes primarily? A. Largely, yes.

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2278 Q. Now, could you state to the Court what the general criteria were for an adhesive that duPont was seeking or working on on plain cellophane? A. Well, when we started to produce cellophane, which was in May, prior to my coming with the company, the French turned over to us a series of formulations that they considered as adequate for sealing plain transparent cellophane to itself or to paper or to cardboard or to glass or to any other product. These formulations generally consisted of gelatin, some phase, with a softener or gum arabic with a softener, or calcium chloride and gelatin dissolved in water.

2279 Q. Pardon me, Mr. Schilly. Were all these adhesives dissolved in water? A. All of these were water-base adhesives.

Q. Yes. Did you do any work— A. In our examination of these adhesives it showed that while they gave you a good bond so far as instantaneous bond and good grab, et cetera, on aging the bond weakened the cellophane, or it caused an excessive wrinkling, or deformation of the film on the package, and, as a consequence, we decided it was necessary to produce something that was superior to

the adhesive known at that time as acceptable cellophane adhesive.

The Court: Mr. Schilly, were these adhesives pressure-sensitive or were they water-soluable?

The Witness: They were all water-soluble adhesives.

The Court: And you had to apply some water or some dampness?

The Witness: Well, actually they were adhesives such as where you were trying to glue one surface to another with a wet adhesive.

Q. For example, like mucilage? A. Like mucil-
2280 age, when you are trying to seal one piece of paper to another piece of paper.

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Q. Are you referring to 1924? A. I am referring now to 1924. So that work was attempted on those. We contacted the various adhesive companies in the—known to be producing adhesives in the country.

The Court: Mr. Schilly, when was this when you say "we did it"? What was that?

The Witness: That was in 1924.

2281 The Court: Were you with the company at that time?

The Witness: I was with the company at that time.

The Court: And who did the attempting to contact?

The Witness: I did. They all sent adhesives in and we tested those adhesives and we still felt that they won't be completely satisfactory for our purpose.

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2282 A. We eventually obtained adhesives we considered adequate for the purpose of sealing plain transparent cellophane to itself or to other materials. They weren't entirely, completely, as you would say, satisfactory but they were the best that could be done with, and we had to use them.

The Court: Were they pressure-sensitive?

The Witness: These water-soluble adhesives I wouldn't class as pressure-sensitive adhesives, no, sir.

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2283 Q. Now, sir, did you do any work at all on solvent dissolved adhesives which could be classified as pressure-sensitive? A. Yes, I did.

Q. Approximately when did you start? A. That is going to be rather difficult to say, but it can run from the period of the fall of 1924 to the fall of 1927; I can't say exactly when.

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2284 Q. Will you please describe to the Court what you did, if anything, with pressure-sensitive adhesives applied to cellophane. Plain cellophane I am referring to all the time. A. I am not sure. You are using the words "pressure-sensitive".

Q. All right, I will call them tacky or sticky. A. That is—thank you—because I know at that time I was not in any sense thinking about pressure-sensitive adhesives, but we were trying to produce a product that would show absolutely no embrittlement or degradation of the cellulose, regardless of how long the joint stood, whether it be six weeks or six years. We also wanted to produce an adhe-

sive that wouldn't show or cause the cellophane to wrinkle; and with that in mind we started some work employing gum copal.

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2290 Q. Now, sir, going to the period after December 1927 when you were attached to the sales group, did you ever accompany a salesman to a prospective new account to demonstrate the packaging uses of cellophane? A. Yes, I believe I did.

Q. Can you describe to the Court what was the typical demonstration made, as to how the package was sealed with cellophane? A. Well there again it depended on whether we were using plain transparent cellophane or moistureproof cellophane.

Q. Let us first describe the plain transparent cellophane.

2291 A. Plain transparent. Well, in that case we would normally, probably, employ a water-soluble adhesive because it, first of all, was a lot less expensive adhesive, and we were dealing with something that was never not as cheap as paper at that time.

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Q. Now would you or the salesmen make a demonstrastration of wrapping a package in plain transparent cellophane and then sealing the joints with the water-soluble adhesive? A. That is right.

Q. Now what was the practice, if there was a practice, with regard to moistureproof cellophane demonstration? A. I would say that the same practice probably followed, except instead of a water-soluble adhesive we employed whatever formulation at the time was available, and the

one that I distinctly recall was a similar combination of ingredients as I gave to you in the formula form of—

2292 Q. That is a gum solvent tape? A. A gum solvent tape, and that was our No. 154T.

Q. Yes. A. And that was applied with a brush. Everything was being done largely by hand in those days.

Q. Yes. Now did duPont, or did you ever develop any solvent adhesives where the solvent ingredient was essentially nitrocellulose? A. Yes, sir.

Q. Were such adhesives used on cellophane? A. Yes, sir, they were.

Q. Were they pressure-sensitive? A. I would say essentially no, they were not pressure-sensitive adhesives.

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2293 Q. Will you tell the Court approximately when heat-sealing cellophane or MST cellophane was offered for sale? A. I would say in about 1932.

Q. Now, prior to that time was there any type of moistureproof cellophane available on the market? A. Yes, sir, from—I believe that it came out commercially in 1927, the moistureproof cellophane, . . .

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Cross Examination

By Mr. Haight:

2294 Q. I will ask you do you have any documents from duPont's file with you? A. I believe that we do have, yes.

2295 Q. And that were brought here at the request of counsel for the plaintiff? A. I assume that they

probably were. I just don't know, but I know that we have some documents with us.

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2299 Q. Mr. Schilly, you mentioned the use of adhesives in demonstrating the sealing of packages with moistureproof cellophane. Did you ever accompany salesmen when the salesemen were demonstrating the wrapping of food products? A. I believe I did perhaps, yes.

Q. Do you have any recollection of how any food products were to be wrapped, or the demonstration of it? A. Well, normally, if we were going to wrap the product for a customer, why, we would have a bottle of adhesive normally with us, or if we were going to merely use a confectioner's fold, we would employ a confectioner's fold and some means of holding the ends together of the package.

The Court: And what would those means generally be?

The Witness: Those means could have been several over a period of the first three years, 1927 through '31, we will say, or four years.

The Court: Yes.

The Witness: They could have been either an ad-
2300 hesive, a rubber band or even a paper band wherein the ends were folded underneath the package and you just took an ordinary standard paper band and pressed it, of course, to make it, make the package reasonably attractive and seal it underneath.

Q. Now did you never find any objection to the smell of the adhesive in connection with the food products? A. Yes, we did.

Q. Do you recall any specific instance where the pos-

sible objection required the use of a rubber band when the rubber band was really not appropriate? A. Well, yes, I do. There are probably innumerable examples, but I can only recall one, and this was my contact with the Beardsley Company, at that time located—I am not sure of the town in New Jersey.

They were producers of dry herring and they were interested in using moistureproof cellophane for the purpose of the retention of the odor inside the package and not outside the package, and the retention of the moisture within the product so that it would not become dry and hard to keep.

2301 We took packages out there and had Mr. Beardsley, Sr. examine them. We had made up one package with the adhesive, and I believe it was the 154 adhesive, or it was the copal acetone solvent, and Mr. Jorgenson, the salesman in the territory, made up a package in which he wrapped—in which he normally produced a confectioner's fold, folded the ends under, and placed those ends in place with a rubber band.

Mr. Beardsley was not satisfied with the package, and neither was he satisfied with the adhesive because even above the smell of the fish you could detect the copal odor.

Q. And there were other instances similar to that, were there, at that time? A. I said that there were, but that is the only one I can recall so vividly to my mind.

Q. I show you a document which was marked for identification as Defendant's Exhibit VVVV and ask you if you can identify that. Do you have the original available? Perhaps the witness would care to look at that. A. Yes, I believe I can identify this. I was not sure of it before.

Q. And it is a report dated December 15, 1930?

2302 A. Yes, sir.

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Mr. Haight: I will offer the report identified by the witness as Defendant's Exhibit VVVV.

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2308 The Court: Do you have any independent recollection, Mr. Schilly, of the analysis which you made
2309 under date of December 15, 1930, entitled "An Analysis of the Use of Moisture-Proof Cellophane Adhesives According to Industries"?

The Witness: That is a pretty tough thing to say, Judge. I cannot say yes, that I do have a recollection. I can't do that, Judge, because you are asking me specifically to point out the respective industries, and while I can point them out in a broad sense, I could not do that specifically as they are brought out in this report. I cannot do that.

The Court: Well, did you prepare a report under date of December 15, 1930, in which you set forth your analysis of the use of moistureproof cellophane adhesives according to industries?

The Witness: Yes, I did.

The Court: And is that the report which is now marked Defendant's Exhibit VVVV for identification? Is that the report which you so prepared?

The Witness: Yes, sir, this is the report I prepared.

The Court: And prepared at that time?

The Witness: Yes, sir.

The Court: And looking at that report, does that refresh your recollection?

2310 The Witness: If I read it. I am going to have to be honest with you, your Honor, as I have not read this report—

The Court: But at the time you made it.

The Witness: —except reading conclusions, the summary and the conclusions.

The Court: But at the time you made it you read it?

The Witness: Yes, I read it then, but I have not examined the details in this report.

The Court: All right. VVVV for identification may be received in evidence.

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2315 The Witness: Now, your Honor, you are implying that I was doing some work for the production of a pressure-sensitive tape, are you not? I was not working working on that. I was working in the production of an adhesive to seal a wrapper.

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2316 The Court: But you weren't working at all on any pressure-sensitive?

The Witness: No, sir.

The Court: It didn't occur to you at that time?

The Witness: No, sir it didn't. Somebody asked me why didn't it, and I said I was too dumb.

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2317 Q. Do you recall a time when the "Scotch" Brand Cellophane Tape became commercially available? A. I can't recall, except by hearsay.

Q. Do you have a general recollection of the effect that had on your own personal business activity? A. Well, at that time we realized that the material itself would greatly improve the sales of moistureproof cellophane. That I believed.

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2318 The Court: Mr. Schilly, would you please look on page 2 of your report, the second paragraph, which reads:

> "Along this same line what is considered one of the important problems is finding a method of instantly sealing filled bags, envelopes and tubes either with labels, bands or adhesives in which additional treatment such as pressure or heat is not necessary. It is believed that something has been found that may eventually answer this problem . . ."

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2319 The Court: It does convey to my mind that at that time you believed that something has been found.

The Witness: That is true, I have got to abide by that; but I don't remember, I just don't remember what was in mind. About that time, I do know that—let's see, this was in December 1930; it is possible that Albert Allen—

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2320 The Court: Who is Mr. Allen?

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2321 The Witness: Mr. Allen is a special representative in the sales development group and currently, today, he is one of the best consultants on fresh produce packaging in the country.

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2322 Q. I show you a letter which has been marked for identification as Defendant's Exhibit WWWW which is a copy of a letter dated December 1st, 1930 to duPont Cellophane Company, Inc., Mr. A. S. Allen, Manager Industrial Section, No. 2 Park Avenue, New York City, from Minnesota Mining, J. A. Borden, Sales Manager. I 2323 will ask you to read that letter and see if that refreshes your recollection in this matter. A. No, I cannot remember. Obviously I must have been informed or I had seen something of that sort, otherwise I would not have made that statement in the report. But I cannot remember.

Q. Now another letter dated January 21, 1931, which will be marked as Defendant's Exhibit XXXX for identification, to Minnesota Mining by Mr. Heyden, shows in a little red notation in the upper righthand corner, "cc Mr. R'S". I will ask you if that refreshes your recollection. A. Well, a copy may have been sent to me, but—

Excerpts from Defendant's Exhibit VVVV, a report dated December 15, 1930, entitled "*An Analysis of the Use of Moistureproof Cellophane Adhesives According to Industries*" prepared by R. C. Schilly, of the duPont Company, a witness called by plaintiff.

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There are several objections to the use of heat in conjunction with application of adhesives by hand or machine worthy of notation:

A. On hand wrapping it is an extra operation slowing down considerably the speed of wrapping and increasing the cost.

B. On converting machines for handling M. T. Cellopane, installation of hot plates is costly and possibly cannot be accomplished owing to the machine setup. In the latter case a concern that is not able to purchase new machines may not be able to use M. T. Cellophane.

C. Heat has a slightly objectionable effect on M. T. Cellophane in that it causes wrinkling, slight odor and reduces somewhat the moisture-proof qualities of the sheet.

D. A much higher temperature of the heating elements is required for sealing M. T. Cellophane than waxed paper. A maximum temperature of 80° Centigrade will satisfactorily seal any waxed paper.

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Introduction

The purpose of this report is to present a brief but clear picture of the uses of M. T. Cellophane adhesives by the trade, the objections encountered and what is necessary to secure absolute satisfaction in the way of a sealing agent.

The following outline will be used in tabulating the data secured according to industry and product.

1—What wrapping materials were previously used.
   a—Adhesive employed.
   b—Method of sealing.

2—What adhesives are employed for sealing M. T. Cellophane.

3—Method of Sealing.

4—What was necessary to transfer the wrapping of the product into M.T. Cellophane.

5—Objections to use of recommended adhesives keeping in mind the following:

a—Odor.

b—Quickness in taking hold.

c—Strength of Seal.

d—Variable viscosity.

e—Comparable ease of handling to water soluble glues.

6—What is necessary to perfect absolute satisfaction in use of M.T. Cellophane adhesives.

Summary

While there unquestionably has been considerable progress in improving our adhesives for Moistureproof Cellophane there is work still to be done before the sealing problem can be considered as solved. Whether the ideal adhesive can ever be produced is still an open question but the fact remains, as you read through the proceeding pages, there are certain problems that must be solved before our troubles will be over.

In the majority of cases whether hand or machine wrapping "speed of handling and sealing", will make or break the adoption of M.T. Cellophane. It is generally conceded that in hand wrapping M.T. Cellophane is harder to handle than either paper or P.T. Cellophane. With this handicap to begin with it is all the more important that a quick setting adhesive, easy to handle be secured. It is true we have made progress in this direction with the formulation of # 559 adhesive, but it is felt that even this can be improved.

Along this same line what is considered one of the important problems is finding a method of instantly sealing filled

bags, envelopes and tubes either with labels, bands or adhesives in which additional treatment such as pressure or heat is not necessary. It is believed that something has been found that may eventually answer this problem—the use of the same gumming on Scotch Masking Tape, on Cellophane, tape, or labels.

For quick setting hot melts are out of the question from a hand wrapping standpoint although they are the best agglutinants we have in this respect.

Another important problem is securing an odorless adhesive. It is because of this trouble with our present glues that they are not being used on cakes. Most M.T. Cellophane is used in connection with food products which readily absorb foreign odors. Adhesives are not used on machine wrapped cigars because of odor. The question of "odor" is very important and must take first place along side of "quick setting".

The salesmen today are working under a handicap because of this negative attitude toward the use of recommended M.T. Cellophane adhesives as a result of their own experience in handling together with trouble they have encountered with organizations that have been using them. Many of them claim that regardless of the product they always attempt to recommend a wrap not requiring any M.T. Cellophane adhesive for sealing. Invariably their reason is "Adhesives have too much odor, do not stick fast enough and are too hard to handle".

Generally speaking the joint strength produced with our present adhesives is satisfactory, very few, if any, complaints ever being received on this score.

Conclusions

As a result of this survey on the use and objections to our present recommended adhesives, the following facts have been tabulated:

1—An adhesive that will take hold more quickly, have less odor and be easy to handle either for machine or hand wrapping is desirable.

2—Quick sealing of filled M.T. Cellophane bags, envelopes, tubes, is important and it is possible we may have something in the Masking tape.

3—Methyl Cellosolve is being used as a sealing agent satisfactorily and it appears as though its use will spread.

4—Hot Melts are of no value in hand sealing but possibly could be used in machine sealing. This field seems to be in the fabricating line but as yet no production runs in laminating M.T. Cellophane to cardboard have been made.

R. C. Schilly.

Note:

The data for this report has been taken from Trade Reports, Correspondence File, and personal contact with concerns using adhesives.

The cooperation given by the Trade Record Section in "Digging" out this information is greatly appreciated.

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Industry and Products

VIII Baking

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Because of the objections to using adhesives from a handling and odor standpoint, the most satisfactory doughnut wrap is single stack, confectioners fold on the side the ends twisted slightly and forced into the holes of the end doughnuts. A band is then placed around the unit. This does not make a satisfactory looking package.

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An adhesive as free from odor as possible and one that would handle easy, would solve many problems in the doughnut and cracker industries.

Defendant's Exhibit WWWW, letter dated December 1, 1930 from Minnesota Mining to DuPont:

MINNESOTA MINING & MANUFACTURING COMPANY
ST. PAUL, MINN.

December 1st, 1930

DuPont Cellophane Company. Inc.
Mr. A. S. Allen, Mgr. Industrial Section,
No. 2 Park Avenue,
New York City.

Dear Mr. Allen:

As requested in your letter of November 28th, we are arranging to send two sample rolls of Cellophane Tape to Dr. W. L. Hyden at Research Division, DuPont Cellophane Company, Buffalo, New York.

We are glad to have Dr. Hyden make the examination he has

in mind and would like later on to have you advise us the results of his experiment.

We are also including no charge one small dispenser so that Dr. Hyden will get a better picture of the speed in removing strips from the roll.

Yours very truly,

MINNESOTA MINING & MFG. COMPANY

J. A. Borden,

JAB:ED Sales Mgr.—Tape Products

Dictaphone

Defendant's Exhibit XXXX, letter dated January 21, 1931 from Du Pont to Minnesota Mining:

cc: Mr. R. C. Schilly

January 21, 1931

Minnesota Mining & Manufacturing Company
St. Paul, Minnesota

Attention: Mr. J. A. Borden
Sales Manager—Tape Products

Gentlemen:

We have received your letter of January 9 and the three sample rolls of Celloseal tape. We find that this latter material is an improvement over the previous tapes which you have sent us and although there is some residual odor we believe that with minor improvements this tape can be used with satisfaction in sealing Cellophane packages.

We are glad to know that you are working on a printed tape and feel that such a development will be a very valu-

able assistance in sealing various packages wrapped in Cellophane and other materials and that such a tape will find a variety of uses.

We appreciate your kindness in supplying us with the samples and shall be glad to see any additional material you may manufacture.

Very truly yours,

CHEMICAL DIVISION
William L. Hyden

WLH

Testimony of **Jacob P. Glaser,** merchandise manager of Goldsmith Bros., New York City, called by Minnesota.

(Record pages 940 et seq.)

Direct Examination

By Mr. Kinney:

940 Q. Where do you reside, Mr. Glaser? A. 150 East 31st Street, Brooklyn, New York.

Q. And what is your business? A. I am employed by Goldsmith Bros. at 77 Nassau Street, New York City, as merchandise manager and buyer.

Q. When did you start to work for Goldsmith Bros.? A. 1912.

Q. And what generally is the business of Goldsmith Bros? A. We—well, I would say that it is a specialty store with emphasis on commercial stationery and equipment, office equipment.

. . . . . .

941 Q. What is the general class of customers served by Goldsmith Bros? A. Well, we sell offices, factories, homes, and we sell practically to everybody.

Q. About how many employees roughly does Goldsmith Bros. have at the present time? A. Approximately 600.

942 Q. And about how many employees did Goldsmith Bros. have when you started with them in 1912? A. About 25.

Q. Can you give us some idea of the size or scope of the business of Goldsmith Bros? A. We are known in our stationery and office equipment division as "America's Largest Stationers". We have other departments, specialty departments on our first and second floors, such as ladies' wear, luggage, drugs, and department store items.

Q. Yes. Now what was your position with Goldsmith Bros. when you started with them in 1912? A. I was a sales clerk.

Q. And maybe you have answered this but I will ask you again what is your present position with Goldsmith Bros? A. Merchandise buyer; merchandise manager and buyer.

. . . . . .

Q. Now, in a very general way what has been the nature of your positions with Goldsmith Bros. in the intervening years between 1912 and the present time? A. Well, I rose from clerk to assistant buyer, then as full buyer. At the present time I am what they call a senior buyer,
943 being the oldest employee that they have, and also I supervise other departments in the commercial stationery division.

. . . . . .

Q. Does Goldsmith Bros. buy pressure-sensitive adhesive tapes and resell them at the present time? A. Yes, sir.

Q. Among those products does it buy and resell film-backed self-adhering tape, such as "Scotch" cellophane tape? A. Yes, sir.

Q. Does it handle any other brands of transparent film-backed tape? A. We do.

944 Q. For how long a time has Goldsmith Bros. handled transparent "Scotch" cellophane tape? A. I would say approximately around 20 years.

Q. Now, do you know in general what your customers used that tape for when Goldsmith Bros. started handling it? A. They used it for mending purposes and packaging.

Q. Now, was there anything about that transparent "Scotch" cellulose tape when Goldsmith Bros. started handling it and when you first became familiar with it that particularly impressed you? A. Well, what impressed me was the transparency and the adhesive and the ease when it was being applied to packages, and to mending of manuscripts, books, and used on window displays, and things of that kind.

Q. Had you ever known of a transparent self-adhering tape prior to the time that you became familiar with transparent "Scotch" cellulose tape? A. I did not.

Q. Had you ever know of a self-adhering film-backed tape of any type prior to the time you became familiar with "Scotch" cellulose tape? A. No, sir.

The Court: Was it your job 20 years ago with Goldsmith Bros. to purchase tape for packaging material? The

Witness: Possibly it was. I can't definitely say
945 because we were very small in those days and I did a lot of everything.

The Court: Well, if 20 years ago was the first time you say when you started to handle transparent cellulose self-adhering tape, if at that time there were other tapes on the market that served substantially the same purposes, would you have known it? The Witness: Oh, I would have known it, yes, sir.

946 The Court: Was it your business at that time to keep abreast of developments coming on the market and to know the different products that were coming on the market? The Witness: Yes, sir.

The Court: And you did not know of any such tape? The Witness: No, sir.

The Court: All right.

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Cross Examination

By Mr. Spille:

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947 Q. I believe you testified that as of now Goldsmith Brothers sells approximately $100,000 per year of "Scotch" Brand cellophane tape at retail. What do you mean by that? A. Well, at retail, that is at the retail selling price when the consumer buys and what the consumer pays for it.

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961 Q. Now going back to when Goldsmith first purchased "Scotch" Brand cellophane tape in 1934—

The Court: The witness did not say, Mr. Spille—

Mr. Spille: I am sorry.

The Court: I did not hear this witness say that they first bought it in 1934.

Mr. Spille: I understand him to say, your Honor—

The Court: He said approximately twenty years ago.

Mr. Spille: Approximately twenty years ago. I did not mean to mislead the witness.

Q. Approximately twenty years ago. I will adopt your — A. Approximately twenty years ago; it might have been eighteen.

The Court: It might have been twenty-two? The Witness: It might have been twenty-two.

Testimony of **Neil S. Beckwith**, President of Carter Paper Company, Springfield, Mass., called by Minnesota.

(Record pages 700 et seq.)

Direct Examination

By Mr. Kinney:

700 Q. Where do you reside, Mr. Beckwith? A. In Long Meadow, Massachusetts.

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701 Q. What is your business? A. Wholesale paper merchant.

Q. What company? A. Carter Paper Company, of Springfield.

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Q. What position do you occupy with that company? A. I am president and treasurer.

Q. When did you first start working for Carter Paper Company? A. 1925.

Q. Was that on a full time basis? A. No, it was while I was attending high school.

Q. When did you start working for the Carter Paper Company full time? A. The spring of 1927.

Q. Now what is the general nature of their business?

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702 A. We wholesale paper, twine, and kindred items.

Q. Now in the business of Carter Paper Company, has it at any time handled pressure-sensitive tapes? A. Yes.

Q. And among those products has it ever handled a transparent pressure-sensitive film-backed tape? A. Yes.

Q. When did it first start doing that? A. Late 1931.

Q. Has it merchandised or distributed that kind of a tape since that time? A. Yes, continuously since that time.

Q. What brand of tape was that that was merchandised beginning in late 1931? A. "Scotch" Brand.

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707 A. We started handling the "Scotch" Cellophane Tape product in late 1931.

Q. And has your company handled it from that time down to the present time? A. Yes.

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708 Q. Your company was also handling that product "Scotch" cellophane tape in 1932, was it? A. Yes.

Q. Now, during this period of late '31 or some time during '32 were you familiar with what your customers used that product for? A. Yes.

Q. Talking about transparent "Scotch" Brand cellophane tape? A. Yes. Well, they used it for sealing small packages primarily.

Q. Now, what class of customers bought from you this tape at that time? A. Grocery stores and drugstores, bakeries, and primarily for packaging, sealing food packages.

* * * * * * * * * *

709 Q. Prior to your familiarity with transparent "Scotch" cellulose tape, did you sell to your customers, that is, customers of Carter Paper Company, any kind of products for sealing packages? A. Yes, we sold water-activated gum tape; we sold twine, but that was not for sealing packages.

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710 Q. Now, Mr. Beckwith, I show you a roll of what appears to me to be some kind of an adhesive tape that has been marked as Defendant's Exhibit VVV for identification. Has your company ever handled or merchandised that kind of a product? A. Yes, sir.

Q. What kind of a product is that? A. Well, it is 1-inch 35-pound 500-foot gum sealing tape made of kraft paper, animal adhesive, animal glue or bone glue probably.

Q. How is this tape used or what did you do with it to make it useful in sealing packages? A. Well, it is dis-

pensed through a dispenser, and you activate it with water and it is spread on with a brush. Is that what you want?

Q. Yes. Now is or is not this the general kind of water-activated gum tape which you talked about and which you said had been in use back before your company started handling transparent cellophane tape? A. That is the tape formerly used, yes, and still used.

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711 Q. Prior to the time your company started handling transparent "Scotch" cellulose tape, had you ever known of a film-backed pressure-sensitive tape of any kind in the market? A. No.

Q. Had you known of such a product otherwise? A. No.

Q. Had you ever known of a transparent self-adhering tape of any kind prior to the time your company began handling transparent "Scotch" cellulose tope? A. No.

Q. What was the approximate volume of your sales of transparent "Scotch" cellulose tape the first year that you handled it, the Carter Paper Company handled it? A. Well, I would say between three and four hundred dollars.

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Cross Examination

By Mr. Morris:

Q. And in 1931 what was your job with Carter?

713 A. I was doing the work as a sales manager but was not a sales manager; I didn't have the title, but I was doing the work.

Q. You were acting as sales manager? A. That is right.

Q. What did Carter sell at that time, what products? A. A general line of course wrapping papers, twines, and so forth, kindred items.

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A. Rubber bands, and tapes, and writing papers, and a general line of retail items as well as wrapping items.

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717 Q. Now you spoke in your direct examination of pressure-sensitive tape. What did you mean by the expression pressure-sensitive? A. As I understand it, it means to me that a tape which immediately adheres to an object without any moistening or without adding anything to the tape itself; it sticks immediately.

Q. Does it mean to you that if you have to put some kind of a solvent on it that it is pressure-sensitive? A. No.

Q. You just don't do anything to it? A. That is right.

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724 Q. Now who did the buying before you started in October of 1931? A. The former sales manager.

Q. Did he buy any of this transparent "Scotch" cellulose tape? A. No.

Q. There was none around when you started your buying in October, 1931? A. There was none around.

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725 A. Well, briefly, when I graduated from high school in the spring of January or February 1927, I then spent two years in the office of the Carter Paper Company and was familiar with everything we handled. Then when the salesman died in early 1929, I applied for his position on the road and got it. I was on the road for

the company for three years, and again was familiar with every item we handled.

Q. And if there had been a transparent cellulose pressure-sensitive adhesive tape sold in this country prior to 1931, you just didn't know about it; is that it? A. That's correct. I think we would have known about it.

Q. Why do you think that? A. We were the leading distributors in Springfield at the time and, therefore, I think it would have been offered to us.

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726 Q. How did you come to buy this "Scotch" tape in 1931? Did the 3M salesman show it to you and urge you to buy it? A. No. A food broker, a grocery broker, came in and sold it to us on a guarantee basis.

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734 The Court: When you sell this "Scotch" brand cellophane pressure-sensitive adhesive tape, did it replace any other packaging substance or material? The Witness: Oh, yes.

The Court: For the purposes for which you were selling it? The Witness: Yes, sir. It replaced twine and gummed kraft sealing tape and rubber bands. It definitely did and it speeded up the packaged product.

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735 The Witness: Yes. It replaced twine and gummed kraft sealing tape and rubber bands. It speeded up the packaging problems in the retail stores.

Q. Well, is it quicker to put on a piece of that tape than it is a rubber band? A. Yes.

Q. And when you say it replaced, you mean that the

people who bought rubber bands stopped buying rubber bands and bought this tape? A. Today we do not even sell rubber bands in bulk. We used to buy hundreds of pounds of rubber bands in bulk for packaging.

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Redirect Examination

By Mr. Kinney:

736 Q. If I understand what you said on cross-examination, or as I understood your answer. you said that a tape such as this water-activated gum tape of Exhibit VVV would not be used to seal soft packages, or what that your expression? A. Yes, it was. In other words, it is easier to use a water-activated tape of that kind which needs some pressure on that kind of a rigid package, such as, well, such as a shoebox or a carton.

Q. What would be an illustration of a soft package, Mr. Beckwith? A. Well, drygoods, dressgoods.

Q. And what kind of a tape would be more acceptable for sealing soft goods? A. Pressure-sensitive tape.

Q. In particular what kind of a pressure-sensitive tape? A. Well, film-backed pressure-sensitive tape.

Q. And are those products, film-backed pressure-sensitive tape of the transparent variety used for sealing soft packages? A. Yes.

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738 A. Our sales volume last year, for instance, on transparent cellophane "Scotch" tape was over $30,000.

Q. And during the first year that you handled that product it was approximately what? A. Three to four hun-

dred. I think about that. This is still based on memory but I think the exact figure was $334, or between three and four hundred.

Q. Well, if my arithmetic serves me correctly that is about a hundred times the volume during the last year than you had the first year?

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Recross Examination

By Mr. Morris:

740 Q. Now, I could use a piece of this tape of VVV to successfully seal and package drygoods, couldn't I? A. You could if you took the time, you know, to press it down a little bit.

Q. And if I were going to use cellophane tape I would have to take the time to put that on, too, wouldn't I?

741 A. Not nearly as much time.

Testimony of **Gerald W. Kelleher,** Buyer for McKesson & Robbins, Inc., called by Minnesota.

(Record pages 1004 et seq.)

Direct Examination

By Mr. Harold J. Kinney:

1004 Q. What is your business? A. I am employed by McKesson & Robbins, Inc., wholesale druggists.

Q. What position do you occupy with that company? A. A buyer of drug sundries.

Q. How long have you been with McKesson & Robbins? A. A little over 24 years.

Q. Can you tell us when you started? A. May 26, 1930.

Q. And what was your position at that time, May 1930 and for the ensuing year or so? A. Well, I was always employed by McKesson & Robbins in the buying department, but I assumed the responsibilities of sundries buyer in 1944 but I have always been connected with the
1005 buying department.

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A. There are a few areas we don't cover. Eastern Pennsylvania, Maryland, Delaware, the District of Columbia, parts of Idaho and Utah, parts of Utah, that we don't cover.

Q. Otherwise do you cover the entire area of the country? A. Pretty generally national distribution,
1006 yes, sir.

Q. Now what class of customers does McKesson & Robbins, Inc., through those seventy odd branches around the country, serve? A. Well, principally independent retail druggists.

Q. Do you have any idea of the number of independent retail druggists to whom McKesson & Robbins sell merchandise? A. Well, we estimate there are—we have 38,000 active accounts.

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1007 Q. Now, Mr. Kelleher, does McKesson & Robbins, Inc., as of the present time, handle or distribute pressure-sensitive adhesive tape? A. Yes, sir, we do.

Q. And among those products do you distribute transparent pressure-sensitive film-backed tape? A. Yes, we do.

Q. And what brand or brands? A. Well, at present we are handling "Scotch" Cellophane Tape and the "Texcel" tape made by the Permacel Corporation.

Q. Now, can you tell us approximately when McKesson & Robbins first started handling, buying and reselling transparent "Scotch" Cellophane Tape? A. Oh, at least over twenty years ago.

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1012 Q. Did McKesson & Robbins at any time put out catalogs covering the products handled by it? A. Yes, sir, we did.

Q. Do you know when the first catalog was put out? A. The first catalog was put out in August or September, 1931.

Q. Did you have anything to do with the preparation of that catalog? A. Yes, sir, I did, I helped to prepare it.

Q. I show you here a group of papers which have been marked—there are five sheets together—that have been marked collectively as Exhibit AAAA.

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1013 Now, can you identify those pages? A. Yes, I can.

Q. What are they copies of? A. These are extracts from the 1931 catalog I spoke about, and this is the kind of cover sheet page and this outlines to our retail customers the products sold, the type, and so forth and so on.

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1014 Q. Is there any transparent pressure-sensitive film-backed tape shown in those pages? A. No, sir, there is not.

Q. Was any shown in that 1931 catalog? A. None at all.

Mr. Kinney: I offer in evidence as Defendant's Exhibit AAAA the sheets just identified by the witness.

. . . . . .

Q. Is "Scotch" cellulose tape, transparent tape, indicated in this catalog of yours? A. Yes, it is on page 202.

. . . . . .

I would like to say it is also shown on page 233 of that 1935 catalog.

. . . . . .

Mr. Kinney: I offer in evidence as Exhibit BBBB the sheets from the 1935 McKesson catalog just identified by the witness. There is a cover sheet and five additional sheets.

. . . . . .

Q. Now when you first became acquainted with transparent "Scotch" cellulose tape, was there anything about that product which you particularly noted or which impressed you? A. Oh, I think so.

. . . . . .

It was very unique and, as I say, easy to work with and easy to apply.

Q. Had you ever known of a similar product before the time that you first became familiar with transparent "Scotch" cellulose tape? A. No, sir.

Q. Had you ever prior to that time known of any transparent self-adhering tape of any kind? A. No, none.

Q. Had you ever prior to that time known of any pressure-sensitive film-backed tape of any type? A. No, sir, none.

. . . . . .

Cross Examination

By Mr. Spille:

1020 Q. I believe you testified that prior to the first date of Exhibit ZZZ for identification, namely, May 3, 1934, or thereabouts, you had never seen or heard of a pressure-sensitive adhesive tape before? A. I didn't say I never saw or heard of it. I said we didn't handle it, we were not concerned with it. I am inclined to think
1021 that I saw some kind of cellophane tape used in stores for sealing packages maybe a year or two before that, maybe in 1932 or 1933.

. . . . . .

1037 The Court: Now, Mr. Kinney, would you please develop from this witness whether the portions of the catalog for the years 1931 and the year 1935 offered in evidence contain all that was in the full catalog dealing with this type of tape.

Redirect Examination

By Mr. Kinney:

Q. If you can answer that question, Mr. Kelleher, will you tell us whether in Exhibit AAAA, the 1931 catalog, which I understand these pages show no film-backed
1037a pressure-sensitive tape at all, as to whether there was any film-backed pressure-sensitive tape shown anywhere in the 1931 catalog of McKesson & Robbins. A. No, sir, there were none. There were none.

1038 Q. Now let us look at the next exhibit.

. . . . . .

1039 Mr. Kinney: Maybe I had better, your Honor, ask a general question about this BBBB, which does, I understand, show transparent "Scotch" cellulose tape in it.

The Court: All right.

Q. Did that catalog for 1935, if you are able to answer this question, contain any other pages showing any kind of film-backed self-sealing or pressure-sensitive tape? A. No.

Testimony of **Alfred E. MacAdam III**, President of A. E. MacAdam & Company, Inc., Brooklyn, New York, called by Minnesota:

(Record pages 1041 et seq.)

Direct Examination

By Mr. Kinney:

1041 Q. Where do you reside, Mr. MacAdam? A. At 234 Lakeview Avenue, East Brightwaters, New York.

Q. And what is your business? A. I am an executive in a paper wholesale firm.

Q. And what is the name of that wholesale firm? A. That is A. E. MacAdam & Company, Inc.

Q. And what executive position do you hold with that firm? A. President.

Q. How long have you been president of that firm? A. For ten years.

Q. How long have you been employed by that firm, or let me ask you this: When were you first employed by that firm? A. In 1927, the summer.

Q. And was that full time or part time employment? A. Summer only.

1042 Q. And when were you next employed by that company? A. The summer of 1928.

Q. And when next? A. The summer of 1929.

Q. And did that continue for several summers? A. That is correct, sir.

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Q. When did you become a full time employee of that company? A. In July of 1933.

Q. Now, when did you finish high school, Mr. MacAdam? A. In the spring of 1927.

Q. The spring of 1927? A. Yes, sir.

Q. And then did you go to school some place else? A. I did, sir, to the Phillips Exeter Academy.

Q. And how long did you go there? A. Four years.

Q. And did you finish at that school? A. I did.

Q. Then did you go to school some place else? A. Yes, sir.

Q. Where? A. Massachusetts Institute of Technology for two years.

1043 Q. For two years? A. Yes, sir.

Q. And that schooling ended when at Massachusetts Institute of Technology? A. In June 1933.

Q. Now, in the summer of 1927 what was the nature of your work? A. I worked in the warehouse of A. E. MacAdam & Company, located at 12 Commercial Avenue in

Garden City, Long Island, New York. I worked as a porter.

Q. And what kind of things were handled in that warehouse? Was it the products of the company that the company was doing business in? A. That is correct. Paper plates, paper napkins, paper bags, wrapping paper, gum tape, twines.

Q. Now, what was your work when you started on the full time basis with the MacAdam Company in, I think you said, July of 1933? A. I went to work in the office at 95 Lexington Avenue, Brooklyn, as assistant to my uncle, who was then sales manager of the company.

Q. Can you give the Court some idea of the size or volume of business that A. E. MacAdam does at the
1044 present time? A. Two and three-quarter million dollars annually.

Q. Is that a wholesaling or distributing business? A. Entirely, sir.

Q. Can you give the Court any idea of the size of A. E. MacAdam Company's business in 1933? A. Yes, sir.

Q. When you started there on a full time basis. A. Under a million dollars.

Q. More than a half million dollars? A. Over a half and under a million.

Q. Now, what class of customers does your company serve generally? A. We serve retailers, institutions, public agencies, hospitals, banks, schools, manufacturing establishments, retailers as I say of all classifications.

Q. Would you name just a few of the items that your company distributes to that class of customers? A. Well,

we distribute paper cups, paper towels, paper napkins, paper plates, kraft wrapping paper, wrapping paper of many, many types, gum tapes, twines, and at the present time "Scotch" Cellophane Tape, masking tapes, a multitude of products, approximately 2000 items, sir.

1045 Q. And do you sell transparent "Scotch" Cellophane Tape at the present time?

Mr. Morris: Your Honor—

A. Yes.

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1048 Q. And did you add transparent "Scotch" cellulose tape to the stock of items carried by your company, or was it already stocked as an item? A. It was already stocked as an item at the time I started in the summer of 1933.

Q. Now, did I ask you to look through some of your old papers to see if you could get some indication as to when your company commenced handling transparent
1049 "Scotch" cellulose tape? A. Yes, sir.

Q. Did you find any such paper? A. I did, sir.

Mr. Kinney: I would like to have marked for identification a little sheet here that says "Net Prices 'Scotch' Cellulose Tape" at the top of it as Exhibit CCCC.

(Marked Defendant's Exhibit CCCC for identification.)

Q. Now, I show you this sheet which has just been marked on the back Defendant's Exhibit CCCC for identification—A. Yes, sir.

Q. —and ask you if that is a copy of a page that came from the files of your company? A. Yes, sir.

Q. I see an autograph signature at the bottom of that

old price sheet. Whose autograph signature is that? A. That is mine, sir.

Q. When was that placed on that sheet? A. About a month ago in my office.

Q. Can you identify this original sheet from that
1050 autograph signature? A. Yes, sir.

Q. Now, is there any date or code on this sheet that helps you to fix the vintage of it? A. This down at the bottom in the lefthand corner, there is the identification by a printer which indicates—I will take my specs off—20,000 of these sheets were run in April, 1932.

Mr. Kinney: Now I offer in evidence Defendant's Exhibit CCCC, the document just identified by the witness.

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Q. What did the customers of your company use transparent "Scotch" Cellophane Tape for when you first started with that company on a full time basis in the summer of 1933? A. For sealing or fixing window signs or holding labels on packages, or for a multitude of purposes.

Q. And when you refer to sealing what in particular did you have in mind there? A. Sealing of packages and cartons.

Q. What kind of customers used this product for
1051 these various uses that you have talked about and could you generally characterize the class of customers in 1933? A. In 1933 you mean?

Q. Yes. A. Retailers.

Q. What kind of retailers? A. Bakers, grocers, drug-stores, hardware stores, butchers, gift shops.

Q. Now, had you been familiar with any product your company was selling during the several summers prior to 1933 when you worked with the company? A. Yes, sir.

Q. Do you know what kind of products your company was distributing in 1927, or some of them, for fastening packages? A. We were distributing water-moistened and gum paper tape and heavy strength twines both cotton and fiber.

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Q. Now, do you know when you first became familiar with transparent "Scotch" cellulose tape? A. Yes, sir, in the summer of 1933.

1052 Q. And had you in your earlier years with the MacAdam Company known of any other kind of transparent self-adhering tape that was stocked and sold by your company? A. No, sir.

Q. Had you ever known prior to the time that you became familiar with transparent "Scotch" cellulose tape any pressure-sensitive film-backed tapes of any type which your company stocked and sold, or otherwise? A. Our company did not stock or sell any such tape.

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Q. Now, within your whole experience inside and outside of the company, had you ever known of a film-backed self-adhering tape prior to the time you became familiar
1053 with transparent "Scotch" cellulose tape? A. No, sir.

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Redirect Examination

By Mr. Kinney:

1059 Q. Has your company ever dealt in or sold cellophane sheets or foils to its customers? I am not

talking about tape now, just plain cellophane film. A. Yes, sir.

Q. Do you know how early your company sold that, that is, to your knowledge, how far back did that go? A. Cellophane sheets were a stock item when I first went to
1060 work in the warehouse in 1927.

Q. Did you continue to sell cellophane sheets or rolls of cellophane to customers in subsequent years, to your knowledge? A. Yes, sir.

Testimony of **Alfred W. Logan**, Division Manager of Providence Paper Company, Providence, Rhode Island, called by Minnesota:

(Record pages 1138 et seq.)

Direct Examination

By Mr. Kinney:

1138 Q. Where do you reside, Mr. Logan? A. Cranston, Rhode Island.

Q. Is that near Providence? A. Right outside of Providence.

Q. What is your business? A. The company's business is wholesale paper merchants.

Q. What company are you employed by? A. The Providence Paper Company of Providence.

Q. How long have you been employed by that company? A. Oh, about thirty years.

Q. Can you fix the time a little more accurately when

you were first employed by the Providence Paper Company? A. I came with the company in December of 1922.

Q. And where is the place of business of the Providence Paper Company? A. It is in Providence at 160 Dorrance Street.

Q. What is generally the business of the Providence Paper Company? A. Well—

1139 Q. —at the present time? A. We term ourselves in the trade as wholesale paper merchants and we are exceptional in that we have two other divisions that are really major; there is divisions in fine paper and in office equipment beyond coarse paper.

Q. Now, what is your position with the Providence Paper Company? A. Division Manager of the Coarse Paper Division.

Q. Of what you call the Coarse Paper Division? A. Yes, sir.

Q. Now, Mr. Logan, can you tell us some of the products that are handled and merchandized in that division? A. About everything that comes under the heading of paper, and we handle cordage, twines, gum tape, cellophane tape, and well, I could go on and on; towels, toilet paper and wrapper paper tissues, bags.

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1140 Q. What brand or brands of cellophane tape does the Providence Paper Company sell at the present time? A. "Scotch" Brand.

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Q. Do you handle entirely the transparent variety, or do you handle some colored "Scotch" cellophane tape? A. We have colored tapes also.

Q. Which do you sell the most of, the transparent or the colored? A. The transparent.

Q. Now, when the Providence Paper Company first started handling or dealing in transparent "Scotch" cellophane tape, when was that, if you know? A. Well, I don't really know. I couldn't place the date exactly, but roughly I would say, oh, possibly over twenty years ago.

Q. Now, I think I asked you if you could bring with you from Providence some record that might make some
1141 reference to the date when Providence Paper Company started handling this product? A. Yes.

Q. Did I so request? A. Yes, you did.

Q. I show you a card and ask you if you can identify that as one of the cards you brought with you. A. Definitely, yes, sir.

Q. That has a red mark on one side of it. Who put that mark on there? A. I did.

Q. When did you put that on there? A. Oh, possibly two weeks ago.

Q. Is that adjacent to an item there, and will you tell us whether that item does or does not refer to transparent pressure-sensitive tape. A. Yes, this refers to a sale made at that time of transparent cellophane tape or cellulose tape.

Q. And what is the date? A. September 6, 1933.

Q. And who is the customer? A. Henry Lederer Brothers, a very well known jewelry manufacturer in the State of Rhode Island.

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1142 Q. Do you know whether that was the very first sale that Providence Paper Company ever made of transparent "Scotch" Cellophane Tape? A. No, no. I wouldn't be able to say that. However, this is one of the early records.

Q. What was your position as of the time we are referring to in that card there, September 1933, or around that period what was your position? A. Well, actually manager of the Twine & Cordage Department, under which this particular commodity came at that time, manager of the department, but it has since expanded, you see.

Q. Can you tell us within some period of time approximately when you first became acquainted with the existence of transparent "Scotch" cellophane tape in
1143 reference to the date on that card that you have just referred to? A. It might have been a year or two prior to the date here. I couldn't be sure of the actual date. I couldn't be sure about that, but 1933 or '32. Well, I guess as quickly as it came out, I guess that is when we heard about it, but I don't know just exactly what date it was. This record shows 1933.

Q. When "Scotch" transparent cellulose tape first came to your attention had you ever known of a transparent self-adhering tape of any kind prior to that date? A. No, I did not.

Q. Had you ever known of a pressure-sensitive film-backed tape of any kind on the market before "Scotch" cellulose tape came to your attention? A. No, sir.

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Testimony of **Charles O. Moosbrugger,** called as a witness by Minnesota:

(Record pages 1205 et seq.)

Direct Examination

By Mr. Haight:

1205 Q. Will you state your name, please. A. Charles Moosbrugger.

Q. Where do you live, Mr. Moosbrugger? A. 1491 Edgecumbe Road in St. Paul, Minnesota.

Q. What is your occupation? A. Advertising director of Minnesota Mining & Manufacturing Company.

Q. How long have you been with 3M? A. Since January 15, 1936.

Q. What job did you have then? A. I was employed as an assistant to Mr. Camp, the advertising manager at that time.

Q. Can you state, briefly, what your work has been from then up until the present time? A. When I first started with the 3M Company I worked on hardware advertising, which included decorator's tape, masking tape, sandpaper of various types. Later on that year I was also extended to cover cellophane tape, and I continued to handle that product throughout the years up to the present time, along with my other duties.

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1208 Q. Now did you recently purchase or have purchased on the market some products in which "Scotch" Cellophane Tape is used in packaging? A. Yes. Under my supervision we secured a great many samples of commer-

cial uses for tape to show your Honor something of what happens at the retail level.

1209 Mr. Haight: I will suggest again that we not mark each one of these exhibits.

The Court: You just satisfy Mr. Morris about not marking these. It is all right with me.

Mr. Morris: They can mark them or not, as they choose. When I get around to it, if I want them, I will mark them. But I will concede that there is a lot of use for this cellophane tape. There is no use putting all that truck in.

Q. Just quickly tell us what that shows. A. This box is sealed with tape in two places, your Honor. That is the way you buy it in the retail store.

Q. What does this one show? A. Here is a combination deal, where the spatula is attached to a box of hot roll mix.

Q. By cellophane? A. With cellophane tape, "Scotch" cellophane tape. Here is a bag of Ivory Soap held here with transparent "Scotch" cellophane tape. Here is another combination, with a little spoon for a drip platter, I guess they call it. Here is a bag of peas, typical of many that you buy in the retail store, which are sealed with "Scotch" Cellophane tape on the top. It is a very common use for tape.

1210 Q. What is the next one? A. This is a belt which is held in the box with transparent cellophane tape, in three places.

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1212 The Court: Well, that is all very interesting, but I would like to hear something about what a combin-

1213 ation deal is, or what that particular combination deal is. Do you have a witness to describe that one, or can this witness?

Mr. Haight: I will ask the witness if he can describe that one, sir.

The Court: Very well.

The Witness: Well, this is two bottles of lotion, and it is a one-cent sale promotion put on by the Palm Beach Lotion Company. It is a rather heavy bottle, and it is put togetner with cellophane tape.

Q. Here is one large spaghetti package where they have used it. A. Five pounds of spaghetti, again evidencing the strength of the product; the cellophane tape is holding such a package with all the rigors and buffetings of distribution.

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The Court: Now, Mr. Moosbrugger, I am going to ask you, anticipating Mr. Morris's questions, and in each one of these instances of cellophane tape that has been 1214 referred to here, couldn't you have just as well used a piece of surgical tape?

The Witness: Oh, heavens, no.

The Court: Why not, if it is for adhesive purposes, it would have held, wouldn't it?

The Witness: But that package is supposed to have been sold at retail, over the counter to the housewives, and a package that does not have eye appeal is done. It is a tremendous appeal in the retail trade.

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Testimony of **Frank N. Manley**, called by Minnesota.

(Record pages 530 et seq.)

Direct Examination

By Mr. Kinney:

530 Q. Where do you reside, Mr. Manley? A. I reside at Hillcrest River Road, New Brunswick, New Jersey.

Q. And what is your business? A. I am the director of construction for Johnson & Johnson.

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Q. How long have you been with Johnson & Johnson? A. Since 1916, 38 years.

Q. And in that answer do you include your connection with subsidiary or affiliated companies? A. Yes.

Q. With what company were you associated in the early '30s? A. I was with the Revolite Corporation.

531 Q. And how is that corporation related to Johnson & Johnson? A. It was a wholly owned subsidiary of Johnson & Johnson acting as the Industrial Tape Division of that company.

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Q. And what was your position with Revolite Corporation? A. I was at first vice president and then I became president of the corporation.

Q. Over what period of time were you president of that corporation, approximately? A. From about 1932 to 1936.

Q. And what product did the Revolite Corporation make

and sell at that time generally? A. Quite generally pressure-sensitive adhesive plus resin-backed fabric.

Q. Did the Revolite Corporation at any time make a pressure-sensitive masking tape? A. Yes.

Q. And did it make that product during that period while you were president of the Revolite Corporation? A. Yes.

531a Q. Do you know when the company approximately commenced making a paper back pressure masking tape roughly? A. Oh, I should say somewhere between '33 and '35.

532 Q. Was your company, that is, either the Revolite Company or Johnson & Johnson interested in making or developing pressure-sensitive film backed tape? A. Yes.

Q. When did that interest commence? A. Somewhere around 1933.

Q. Had you been familiar with any film backed pressure sensitive tape on the market at that time? A. Yes, we knew there was a tape, and we had observed it.

Q. Who was the manufacturer of that tape? A. Minnesota Mining & Manufacturing Company.

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533 Q. Mr. Manley, you have before you, do you not, a set of photostatic copies of documents beginning with the designation SS, the next one is TT and so forth, quite a number of them there, do you? A. Yes, I do.

534 Q. What are they generally? A. These are photostats of copies of our file which have been selected.

Q. And they are copies of papers taken from the file of the Johnson & Johnson Company, is that correct? A. That's right.

Q. Are they records that were made and preserved in the regular course of business by the Johnson & Johnson Company, or its affiliates? A. Yes.

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559 Q. During the time when you were president of Revolite Corporation, did that company or Johnson & Johnson ever succeed in producing a marketable transparent pressure-sensitive film backed tape? A. No.

Q. Did they try to, to your knowledege? A. Yes.

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560 Q. Over how long a period, to your knowledge, while you were president of the Revolite Corporation? A. Oh, at least three years of my presidency, I would say, from 1933 to 1936.

Q. Were you interested in that project and supervising or prodding the people in the Laboratory during that period of your presidency? A. Yes, constantly.

Q. During that period of time was "Scotch" cellulose tape, transparent film backed pressure-sensitive tape on the market, to your knowledge, throughout that period?

561 A. Yes, I think I can say yes to that.

Q. Had you examined rolls of "Scotch" cellulose tape? A. Yes, we had seen the product many times.

Q. What was the business of Johnson & Johnson as of 1933 and what is it today? A. The business of Johnson & Johnson was largely and basically the manufacture of surgical dressings.

Q. And related products? A. And related products, adhesive products and so forth.

Q. Surgical tape? A. Surgical tape, gauze bands, some cotton, sanitary products.

Q. How early did Johnson & Johnson start manufacturing surgical tape, do you know? A. Well, I believe historically it was one of their original products, and the company is approximately seventy years old.

Q. And they were making surgical tape when you first went with Johnson & Johnson? A. Yes.

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Cross Examination

By Mr. Spille:

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584 The Court: And are Exhibits SS through UUU correspondence and memoranda that went back and forth between Johnson & Johnson and Revolite and various officers or individuals of Revolite and Johnson & Johnson in the regular course of the conduct of the business?

The Witness: Yes.

Defendant's Exhibit MMM

April 17, 1935

TRANSPARENT CELLOPHANE TAPE—Progress Report on—

OBJECT—

To produce a satisfactory transparent Cellophane Adhesive Tape.

SUMMARY OF EXPERIMENTAL WORK TO DATE—

Eleven different transparent masses have been prepared and spread on Dupont's Cellophane and Sylvania's Sylphrap.

SUMMARY OF RESULTS TO DATE—

Only one of the masses has been found satisfactory as to aging. This mass known as H does not anchor well enough to either the Cellophane or the Sylphrap.

WORK SCHEDULE—

1. Preparation of a mass similar to Mass H except with improved adhesiveness.

2. Bonding agents are to be tried to assist anchorage of the mass to the Cellophane.

JOHNSON & JOHNSON
Research Laboratory
/s/ H. E. Polhemus

Excerpts from Defendant's Exhibit UUU

(Letterhead of)
INDUSTRIAL TAPE CORPORATION

New Brunswick, N.J.
April 24, 1939

SUBJECT: Texcel Production Summary and Proposal

TO: Mr. W. E. Mayers
to
Mr. Geo. F. Smith

Since January 11, 1939 when the Waldron Slitter was installed we have been attempting to get into commercial

production of Texcel. Since then in spite of the very best and sincere efforts of our Laboratory and Mechanical Departments and the expenditure of nearly $10,000 in salaries, wages, and material the net production has been less than 5,000 lineal 29" yards with a sales value of about $2,500.

Although innumerable experiments have been made and much data obtained, our three principal problems:—

(a) The splitting of the sheet in the slitting and winding process

(b) The transfer of the mass

(c) The rapid and accurate slitting and winding of the individual cores

remain unsolved to the degree that steady and substantial production is impossible. Early in March, during one of our brief periods of seemingly favorable production we were encouraged to the point of releasing Texcel for the market and called meetings of our sales force. During the ensuing two weeks we opened some ninety-three jobber accounts and obtained ample evidence that we can successfully market this line.

Production, however, bogged down and we were forced to ask our salesmen to refrain from further solicitation of Texcel. A large part of the orders taken are still unshipped.

In the meantime our competitors are taking defensive steps to make our entre into this field increasingly difficult. Every week that the production of Texcel is delayed is costing us at least $1,000 in profit on sales.

That the problems involved are difficult cannot be denied. But we do know that they can be and have been solved.

* * * * * * * * * *

L. E. Barnes
/s/ LEB

w

Testimony of **Charles C. Smith,** called as a witness by Minnesota.

Direct Examination

By Mr. Haight:

1167 Q. Will you state your name, please. A. Charles C. Smith.

Q. Where do you live? A. 357 Woodlawn Avenue, St. Paul, Minnesota.

Q. What is your occupation? A. At present, I am general manager of the Cellophane Tape Division of Minnesota Mining Company.

Q. How long have you worked for Minnesota Mining? A. Since October, 1928.

Q. How long have you been connected with the Cellophane Tape Division? A. Since its inception, which was, as I recollect, early in 1930.

Q. Can you just give a brief statement of what your experience has been with the company, what your various

jobs have been, in a general way. A. Through the first approximate year and a half I was engaged in general clerical work in the sales office. From 1930 through 1935 I was
assistant to the sales manager of our Tape Division.
1168 From 1936 through 1941 I was located, first, in Philadelphia for four years, then in New York for two years as eastern sales manager of Cellophane Tape Products. At the end of 1941 I returned to St. Paul and for the first five years was national sales manager of Cellophane Tape, then general sales manager of the Tape Division. And since February of 1952 general manager of the Cellophane Tape Division.

Q. Now back at the time that the Minnesota Mining brought out its first cellophane tapes, were you at that time familiar with some of the uses made of the tape by customers of Minnesota Mining? A. Yes, sir.

Q. Can you tell us what some of those uses were? A. Sealing moistureproof cellophane was one of the more important uses in bakeries, candy manufacturing plants, meat packers and so forth. Also—

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1169 A. (continuing)—for the splicing of papers, foils in the manufacturing process. It was used very extensively for attaching window posters; used in offices, banks, schools for general mending and adhering and attaching. It was used in combining two related articles in what is termed a combination deal, such as a package of pancake flour and a bottle of maple syrup. And used in retail stores for package sealing as well as general mending and repairing, and taping of posters and so forth.

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1170 Q. I will show you what has been marked for identification as Defendant's Exhibit KKKK, early advertising apparently, a little folder of Minnesota Mining.

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Q. (continuing) Now I will ask if the Exhibit KKKK illustrates some of the early uses for cellophane tape. A. That is right. It shows several packages wrapped in cellophane or packed in cellophane bags which have been sealed with cellophane tape. It shows, here, the sealing of a box of jigsaw puzzles. It shows here some bakery packages sealed or wrapped in cellophane. Here is an illustration of some meat packages.

This is a confectionery use where, in addition to sealing the cellophane wrapper they also seal the little seasonal decoration ornament. Some more cellophane sealing
1171 uses. Here is a use that involves attaching of window posters. These are representative of combination deals, where they attach in an introductory offer a package of rice to a can of coffee.

A similar deal here on the part of Lipton's Tea. This is a package of some cosmetic items where a new introductory item was attached to a container of a well-established product. Here is a case of attaching a package of cigarette papers to a pouch of tobacco. It is quite a cross-section of general uses.

Q. Now I show you what has been marked for identification as Defendant's Exhibit LLLL, and I believe that is the 1934 one entitled "Which Would You Choose" and ask to what type of use that refers. A. Well, this was primarily intended for the bakery trade prior to cellophane tape. The only way that moistureproof cellophane could be adhered to cakes was by either string or ribbon or bands,

which were quite commonly used at that time. The principal objection to the use of bands was the fact that they tore very easily in the stores and, as a result, made the
1172 merchandise look shopworn, which resulted in heavy returns. Sealing the same packages with cellophane tape kept them neat and clean-looking and considerably reduced the number of returns that resulted.

Now we also illustrate a use here where the bakery salesman carried a roll in his packet that was designed for that purpose and as packages in the store became shopworn, due to handling, many times they could make repairs by patching them up right in the store rather than having to take them back as rejects, which was a very costly item.

Q. I show you a sheet which has been marked for identification as Defendant's Exhibit MMMM which purports to be a statement showing net sales and credits for transparent and colored pressure-sensitive film-backed tape, mostly cellophane tape, November 1930 through December 1941, and I will ask if those figures were compiled at your direction, at your request and under your supervision? A. That is correct, by our chief statistician.

Defendant's Exhibit MMMM, report dated October 20, 1954 entitled *"Net Sales and Credits for Transparent and Colored Pressure-Sensitive Film-Backed Tape (Mostly Cellophane Tape) November, 1930 through December 1941."*

MINNESOTA MINING & MANUFACTURING COMPANY
October 20, 1954

NET SALES AND CREDITS FOR TRANSPARENT AND COLORED PRESSURE-SENSITIVE FILM-BACKED TAPE (MOSTLY CELLOPHANE TAPE) NOVEMBER, 1930 THROUGH DECEMBER, 1941

Year	Total Transparent Tape Sales (almost all under "Scotch" Brand)	Total Colored Tape Sales (almost all under "Scotch" Brand)	% of Unsatisfactory Material—Credit to Sales
1930	$ 21.82		
1931	105,753.40	$ 19,426.82	5.3%
1932	278,294.97	51,278.17	1.5%
1933	381,296.00	36,476.51	1.7%
1934	465,762.08	101,927.58	4.6%
1935	680,622.39	125,734.67	1.4%
1936	1,044,290.87	177,770.58	1.0%
1937	1,567,555.99	298,349.14	.4%
1938	2,181,175.32	383,310.42	.2%
1939	3,018,853.47	541,724.49	.1%
1940	3,865,204.31	510,881.37	.2%
1941	5,789,163.05	802,811.97	.2%

1940 and 1941 sales do not include transparent cellulose acetate tape sales; amounting to $12,250.30 in 1940 and $24,145.57 in 1941. Years previous to 1940 did include transparent cellulose acetate tape sales.

The above figures do not include colored tape with a film backing and a porous fibre sheet embedded in the adhesive sold during the years 1940 and 1941. Colored tape of this type sold during years 1937, 1938 and 1939 is included in the above figures for those years; it was a small percentage of the total for those years.

Returns and credits for the years 1931 and 1932 are shown in company records for all tape products, and are not

broken down for cellophane or film-backed tapes. Total returns and credits for all tape products for the year 1931 were $9,775.34. I estimate that not more (and probably less) than $5,600.00 was for cellophane tape. In the year 1932 returns and credits for all tape products dropped to $8,246.49, and so reduced the returns on credits for cellophane tape to $4,300.00 for the year 1932 ($1,300.00 less than for the year 1931). After the year 1932, the company records show the returns, as above indicated.

/s/ Emil H. Grauenick

Defendant's Exhibit NNNN

"SCOTCH" Cellulose Tape—Total
ADVERTISING EXPENDITURES

	Total Adv. Exp.	% of Total Sales
1931	——	—
1932	8,001.14	2.4
1933	11,682.07	2.8
1934	9,408.58	1.7
1935	15,165.37	1.9
1936	19,062.03	1.6
1937	38,609.55	2.1
1938	56,165.65	2.2
1939	88,975.17	2.5
1940	248,979.43	5.7
1941	265,772.05	4.0

Testimony of **Charles C. Smith**, recalled as a witness by Minnesota.

(Record pages 3864 et seq.)

Direct Examination

By Mr. Haight:

3864 Q. I will ask you if in connection with your work you have supervision over wholesale and retail sales, that is, to that group of distributors of Minnesota Mining, of cellophane tape? A. That is correct.

Q. About how many distributors or jobbers does Minnesota Mining have? A. Between 30 and 35 thousand, according to our records.

3865 The Court: Does that mean, Mr. Smith, between 30 and 35 thousand so-called commercial stationers, or wholesale paper dealers?

The Witness: Wholesale drugstores and grocery stores and all the other contributing types of wholesale.

The Court: And that 35,000 includes all of them?

The Witness: Everything, yes.

The Court: Could you give us some estimate of the number of commercial stationers or wholesale paper dealers?

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The Witness: I would estimate six to seven thousand paper wholesalers and perhaps four to five thousand stationers, commercial stationers as we call them.

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Q. Do you require that these distributors or jobbers shall handle 3M tape exclusively? A. No, sir.

Q. And do in fact any of those distributors or job-
3866 bers handle competitive tapes? A. Many thousands of them.

Q. Do you require that if a jobber is to handle one 3M tape he must buy another? A. No, sir.

Q. Now, you have been talking about the situation as of today, and is that a recent situation or has that condition continued for some time? A. It has always been that way.

Q. Do you have any jobbers who handle only one type of tape? A. Yes, we do.

Q. What group is that? A. Well, jewelry jobbers, for example, handle only cellophane tape, and that is pretty generally true of florist type jobbers.

Q. Now, what I was getting at is the jobbers order whatever their customers require, is that it? A. That is right.

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3867 Q. Mr. Smith, do you require any jobber to buy particular tape from 3M? A. No, sir.

Q. Who decides what tape a jobber or distributor shall buy from 3M? A. Well, the jobber would decide that himself based upon his demand for the product.

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Cross Examination

By Mr. Morris:

3883 Q. Now has 3M established a policy of exclusive distributorship? A. What do you mean by exclusive distributorship?

Q. Well, let me put it this way: What is the policy of 3M and what has it been for the last six months, say, as to

the distribution of its tapes by wholesalers? A. The policy has been to sell every wholesaler that is required to properly service the trade in the area involved.

Q. And the policy within that six months period has been to establish exclusive distributorships, hasn't it? A. No, sir.

Q. You mean— A. I don't know what you mean
3884 by exclusive distributorships. Would you clarify that, please?

Q. Well, let us say this: Does 3M, what I mean by that is, does 3M now require its distributors to buy all of their requirements of tape from 3M so that they can have an exclusive distributorship in a given territory? A. No, sir, they never have and don't today.

Q. So, as I understand what you are saying is, that anybody that orders tape, any wholesaler that orders tape, from Minnesota Mining, gets the tape? A. Yes, sir, unless there is some credit reason or other reason why we may not elect to sell them.

Q. And there is absolutely no requirement that they deal only in the Minnesota Mining tape? A. No, sir.

Q. That is, so far as you know? A. Yes, sir.

The Court: But if there were any such requirement, would you know it?

The Witness: Yes, sir.

The Court: And you know that there is or that there isn't any such requirement?

The Witness: There is no requirement that any distributor handle only 3M tape, and there never has been such policy.

3885 Q. That is true, is it, as to cellophane tape? A. Yes, sir.

Q. That is true as to all of the other tapes that 3M sells? A. Yes, sir.

Q. 3M changed its policy here six or eight or 12 months ago, didn't it, its selling policy? A. No, sir.

Q. It used the same selling policy it has always used? A. Yes, sir.

Q. And the authority of the district managers is the same as it has always been? A. Yes, sir.

Q. Now lately there has been a change in the field organization plan; hasn't there been some change? A. No, sir.

Q. Didn't you establish district managers or supervisors of district managers, or something of that sort, in the last few months? A. No, sir; we have had regioual managers over the district managers for many years.

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3887 The Court: Mr. Drew testified by deposition that up until a certain period he was autonomous to a degree within his district and if he had any problems he had to take them up with the home office, but then a time came, and relatively recently, when there was a change and w ere somebody else was put in the field, and I thought the office was somewhere in Pennsylvania, to my recollection and, now, if he had a problem he would first go to that person and that person would then go to—

The Witness: Maybe I can clear that up for you. I have been talking about our Retail Division. Mr. Drew is in the Industrial Division. Now we did not have, up until about

two years ago, a regional manager over Industrial. However, we do have them now and have had for at least two years. But we have had a retail regional manager in this area for several years. Does that clear that up?

The Court: Yes.

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3911 Q. Was it brought to your attention in 1953 by anyone connected with Minnesota Mining that Technical Tape Corporation tape was being sold by the Crown Office Supply Company? A. Yes, sir.

Q. And what was called to your attention? A. It was called to our — to my attention that they were aggressively pushing the sale of Tech cellophane tape, that they were substituting Technical Tape on customers' orders calling for "Scotch" Brand, and that they were degrading
3912 the name of "Scotch" Brand Tape by pointing out to customers when they asked for "Scotch" tape saying they could furnish it but they were foolish to pay the price if they got something just as good that is cheaper. That is exactly what was reported to me.

Q. And you objected to their selling it cheaper, is that it? A. No, sir, that had nothing to do with our feelings toward Crown Office Supply. We objected to their substituting Technical Tape when customers ordered "Scotch".

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3913 A. In substance, I told him that unless Crown Office Supply discontinued the practice of substituting Technical Tape on orders for "Scotch", and unless they discontinued pointing out to customers that they will supply "Scotch" if they want it but "We can give you something just as good at a lower price", that we certainly didn't feel we wanted to do business with them any further.

In addition to their activity in this regard, they were also cheating by having shipments of our product shipped to phoney consumers and later picked up and returned to their stock in order to gain a discount advantage, which certainly was against our policy.

Q. You mean Crown Office Supply was cheating? A. That is correct.

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3915 Q. You did discontinue selling them? A. Yes, sir.

Q. That is selling tape to Crown Office Supply Company? A. Yes, sir.

Q. You discontinued selling cellophane pressure-sensitive adhesive tape? A. Yes, sir.

Q. And you discontinued selling all tapes manufac-
3916 tured by 3M to this company, didn't you? A. To the best of my knowledge, we did, yes.

Q. Masking tape as well? A. If we sold them masking tape, I am sure we discontinued it.

Q. And you haven't since then sold them any tape? A. Not to my knowledge, no, sir.

Q. You have refused to take their order for tapes, haven't you? A. Yes, sir.

Q. You have refused to take their order for masking tape, haven't you? A. If they sent any in I am sure it would be refused.

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3922 Q. Do you know the Cammack Office Supply Company of Burlington, North Carolina? A. Yes, by reputation, not personally.

Q. They were buying tape from Minnesota Mining? A. Yes, sir.

Q. And they were cut off? A. No, sir.

Q. They were not? A. No.

Q. Are you sure of that? A. Positive.

Q. Well, how do you know that? A. Because my Atlanta branch manager told me that they are still on our records as an active customer.

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3925 Q. So you have to approve the cutting-off or disapprove it, is that correct? A. That's correct.

Q. And when they are cut off it is with your approval? A. That's correct.

3926 Q. We were on this Anchor Office Supply Company of Cleveland. A man by the name of Rosenblatt runs that. I think you said you knew or heard of that company? A. That's right.

Q. And through your own organization, the 3M organization? A. That's right.

Q. Now 3M sold that company tape? A. That's right.

Q. The whole line of tape? A. I wouldn't know how extensive their purchases were. I know that they are set up to buy our products.

Q. Do you remember that there was some sort of a discussion at the 3M offices in St. Paul about this Aviation Supply Company within the last year or so? A. Who is Aviation Supply?

Q. I am sorry, I used the wrong name. The Anchor Office Supply Company. A. Yes, I know there was discussion.

Q. And that discussion had to do with shutting them off? No, sir.

3927 Q. What was the discussion? A. The discussion had to do with certain unethical practices, such as substituting and cheating on drop shipments, such as we talked about on Crown Office Supply.

Q. And there was no discussion about cutting sales of tape off from them because of that cheating? A. The practice was discussed with them and they agreed to cease the practice. We have never refused to sell them.

Q. Just how did they cheat? A. By substituting competitive brands on orders calling for "Scotch" and also by attempting to fake drop shipments in order to gain a better discount for stock.

Q. You have talked about substituting other tapes such as "Tuck" tape for "Scotch". A. I didn't say such as "Tuck" tape.

Q. Well, all right. You have talked about, let us say, that some of the dealers or distributors substituted tape made by some other company. A. Some other manufacturer, yes.

Q. When the customer called for "Scotch" tape. A. That's right.

Q. Did the customer in those instances call for
3928 "Scotch" tape or "Scotch" Brand Tape? A. I wouldn't be sure of that.

Q. Now you don't know, either, whether those substitutions, as you call them, were with the consent of the customer, do you? A. No, sir.

Q. You remember also that in connection with this An-

chor Office Supply Company — well, let us go back for a moment on that same company. There drop shipments were made, the ones you knew about, the ones that were discussed, were made to a lunchroom or a candy store or something nearby, weren't they? A. I don't recall that.

Q. You don't know that? A. No.

Q. How did you know that they were cheating? Where did you get that information from? A. It was reported to me by our Cleveland sales manager.

Q. And he simply reported that there were drop shipments which were not legitimate drop shipments? A. That's correct.

Q. He didn't tell you where they were made? A. I
3929 didn't bother to ask; I didn't think it was necessary.

Q. He didn't tell you where they were made? A. No, sir.

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3937 Q. Now, when 3M cut off some or one of its customers, was it always because they had either been cheating in the manner you said, or that they were palming off or substituting some other manufacturer's tape for 3M tape? A. Not always. We have discontinued selling certain customers for credit reasons.

Q. Well, outside of credit reasons. A. Generally speaking those were the principal reasons.

Q. Now, what did you understand I meant by sub-
3938 stituting or palming off? A. I understood that to mean that upon the order of a customer for "Scotch" Brand Cellophane Tape the order was not filled as specified.

Q. Without the knowledge of the customer, is that what you mean? A. With or without.

Q. So 3M's compaint is that they don't want a competitor to push — rather they don't want the distributor to push a competitor's tape ahead of 3M tape? A. Not at the expense of 3M tape, no.

Q. Not even if the customer says "It is all right. I will take it"? A. I did not say that, Mr. Morris.

Q. I am asking you that. A. I said that when a distributor on an order for "Scotch" Brand Tape goes to the customer and says, "I can give you 'Scotch' Brand if you want it, but I will give you a tape which is just as good and at a cheaper price", I consider that unfair, and I would certainly not cooperate very long with that type of distributor.

Q. And you would cut him off? A. I think I would, yes.

3939 Q. And have you done so? A. Yes, we have in the case of Crown Office Supply for one.

Testimony of **John J. Bennison**, called as a witness by Minnesota.

(Record pages 3941 et seq.)

Direct Examination

By Mr. Haight:

3941 Q. Will you state your name, please. A. John J. Bennison.

Q. Where do you live, Mr. Bennison? A. 56 Downey Drive, Tenafly, New Jersey.

Q. By whom are you employed? A. Minnesota Mining & Manufacturing Company.

3942 Q. How long have you been with that company? A. About 18½ years.

Q. What is your present position? A. I am eastern regional sales manager, Industrial Tape Division.

Q. And has your experience with the company been in the sales end? A. Always, yes, sir.

Q. The eastern region covers what area of the United States? A. Well, I usually answer that by saying the Eastern Seaboard.

Q. Now you mentioned the industrial trade. Can you state generally what that group is? A. Well, our men spend the bulk of their time calling on manufacturing concerns and the distributors who normally service that class of trade.

Q. Now, when you sell to those distributors do you sell on the condition or with the requirement that they shall deal only in 3M tape? A. Absolutely not.

Q. Do any of your distributors who purchase 3M tape in fact purchase from others also? A. Yes, definitely.

3943 Q. Do you require that any of your jobbers or distributors handle and purchase more than any one type of tape? A. Would you repeat that question Mr. Haight, please?

Q. Well, I think it is a rather awkward question and I will rephrase it. Do you require a jobber if he is to handle one type of tape to also purchase another type? A. No, sir.

Q. Who determines what types of 3M tape the jobber will buy? A. Well, I think that is pretty well determined by the customers that that jobber is servicing.

Q. But 3M doesn't determine it? A. No, sir.

Mr. Morris: I object to the question as being leading.

The Court: Sustained.

Mr. Haight: That is all.

Mr. Morris: No cross.

Testimony of **Charles Lloyd Arnold,** sole owner of Lloyd's Office Supply, Pawtucket, Rhode Island, called by Technical:

(Record pages 2796 et seq.)

Direct Examination

By Mr. Spille:

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By the Court:

2796 Q. What was the total volume of your business for 1954? A. Approximately $100,000 gross. It will be a little bit higher, but I don't have the exact figures; we haven't closed our books for 1954 as yet.

Q. What was it in 1953? A. 1953, I think it was $96,000, in that vicinity.

Q. In 1952? A. '52 was, I believe it was $76,000 in 1952.

Q. In 1951? A. '51, it was either 56 or 58 thousand.

By Mr. Spille:

Q. When did you start in business, Mr. Arnold? A. I believe it was 1949, it was either 1948 or 1949; I started the middle of the year, and I don't —

Q. What was your gross volume of business the first full year you were in business? A. The first full year was 26,000.

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2799 The Court: And you say in 1952 your total sales were $76,000?

The Witness: That is right. That is on everything.

The Court: Your total sales?

The Witness: Yes.

The Court: And now included in those total sales were "Scotch" Brand Cellophane Tape, or all tapes of $2,000?

The Witness: That is right, your Honor.

The Court: All tapes?

The Witness: That is right.

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By Mr. Spille:

2807 Q. Now after the fall of 1953 did you thereafter sell any pressure-sensitive tape to Glasscraft? A. Yes. but it wasn't for quite a while afterward because—

Q. What brand of tape or what kind of tape did you sell to Glasscraft? When did business resume, if it ever resumed? A. Well, I didn't sell them any tape; I did sell them cellophane tape which is, of course, with them was a very small item; they just used it in their offices. But I was trying to get them to buy a tape that "Tuck" was making; it was a high temperature, and at the time they hadn't — I think it was fairly new and of course they had to try it and test it, it had to be sent out on the rolls to

their salesmen to see if it held up, and one thing and another; so that it took quite a while. I would say offhand it must have been six or eight months before they bought any of this other tape.

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2808 Q. Do you have any interest in any manner whatsoever in the Glasscraft Company? A. I do have stock in the company.

Q. When did you first obtain stock in the company? A. When they first started in business.

Q. Approximately when was that, sir? A. It would be about 1950.

Q. Do you still have a stock interest in Glasscraft? A. Yes, I do have.

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2811 The Court: Now this high temperature tape that you sold to the Glasscraft Company, did you stock any of that tape?

The Witness: No, that particular tape was not a stock item with anybody in any quantity.

The Court: You didn't stock it?

The Witness: No, I did not.

The Court: When you got an order from Glasscraft for this high temperature tape, you would forward that order on to Minnesota Mining?

The Witness: That's right.

The Court: And did Minnesota Mining ship the order to you or directly to the customer?

The Witness: No, right to the customer.

The Court: So that all you were really acting as was a salesman for Minnesota Mining in getting your
2812 intermediate commission.

The Witness: Well, that's right.

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2813 The Court: What function did you serve in this whole economic process when you sold a high temperature tape? What utility, what service did you render?

The Witness: Well, originally, your Honor, you see the purpose as a jobber is to go out and contact users of tape; in other words, we act as salesmen for the company, for several different companies, not just Minnesota or Tech or anybody else, we act as a salesman for several companies.

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2814 The Court: As a matter of fact, you rendered no economic function or utility here at all except to act as a salesman for Minnesota Mining, and for that you got a commission?

The Witness: That's right, sir.

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Cross Examination

By Mr. Haight:

2817 Q. You testified on direct examination that you started buying "Tuck" tape in early 1953 of this year, corrected it to 1952, and now you would like to correct it to 1951, wouldn't you? A. Did I say '51?

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2818 The Court: When did you first start handling the "Tuck" tape? Was it in 1951, 1952 or 1953?

The Witness: Well, I said 1953, and then I said 1952. I will say to you now that I did not come here prepared with any records or any figures, but I can check on my books and find out if you want me to.

Q. Now, in March of last year you testified under oath that it was 1951, didn't you? A. At that time I had no records whatsoever, and if you remember if you were there, I came up there out of the cold just to testify as to what had happened to me.

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2819 The Witness: Well, yes, in my testimony in Boston I said I started to buy "Tuck" tape in 1951, and if I said it then I must have started to buy the tape in 1951 from Technical Tape. However, I don't remember at this time when I started to buy it, or when I did not start
2820 to buy it, do you see?

• • • • • • • • • • •

Q. Now, I show you what has been marked for identification as Plaintiff's Exhibit 41, and I will ask you if you reread your deposition since you gave this testimony up in Boston? A. No, I have not.

Q. Did you discuss it with anyone since you gave it? A. No, I haven't.

• • • • • • • • • • •

Q. I call your attention to page 12 of your deposition and to the question, the first question on the page, testimony given by you in Boston on March 26, 1954, and I will ask you were you asked this question and did you make this answer:

2821 "Q. Can you tell the name of the other brand of pressure-sensitive tape that you began to stock at that time? A. Well, at that particular time when I started

to — when I took another brand, let us put it that way, I took on Technical Tape, better known as "Tuck" in the trade."

Now, was that question asked of you and did you so answer? A. Yes, I did, but lookin, back here I think—according to this, that is what I said.

Q. All right. Then were you asked this question and did you make this answer:

"Q. So that from 1951, the middle of 1951 on, you handled both lines of tape? A. That's right."

A. That is right.

Q. And that "both lines of tape" referred to "Scotch" Brand and "Tuck" Brand, did it not? A. That is right, sir.

Q. Then from 1951 through 1953, up until September, or the fall of 1953, you sold both Technical Tape and various pressure-sensitive tapes, and you also sold the 3M product? A. That is right.

2822 Q. Is that right? A. That is right.

Q. And during that entire time until the time that your relations with 3M were terminated, until the last incident, you had no complaint from 3M about your handling the "Tuck" tape, did you? A. No, I did not.

. . . . . .

2825 Q. Well, now, what percentage of your sales in 1953 up until the time that you quit selling and purchasing Minnesota Mining products, what percentage of your sales of 3M products were to Glasscraft?

. . . . . .

A. 81 per cent.

. . . . . .

2826 Q. And that accords with your recollection, doesn't it? A. That is right.

Q. That 81 per cent of the sales you made in the year 1933—

The Court: 1953.

Mr. Spille: 1953.

Q. —1953 were sales to Glasscraft? A. That is right.

Q. Now, those were shipments where 3M drop shipped right to Glasscraft, weren't they? A. That is right.

Q. And you might have actually sold them a little bit additional to that, might you not? Couldn't you have done that? A. Well, that was also in this questionnaire as I noticed it, but I think as I mentioned a little while ago, whatever they bought was very small.

Q. All right. Now, what percentage of your sales of tape, of 3M tape in 1952 were to Glasscraft? A. Isn't that in the record? I don't remember. I mean is it or what?

2827 Q. Well, let me refresh your recollection. A. You see, when I—

Q. Just a moment. Let me refresh your recollection. A. Yes.

Q. You did not sell a penny's worth of tape to Glasscraft in 1952, did you? A. No, sir.

. . . . . .

2829 The Witness: . . . at the time that they were asked who they wanted to buy it from, that they told him a particular company. Now, they were—

The Court: That is, Glasscraft told them a particular company?

The Witness: That is right, your Honor. Now, this tape that I sold them was a very small portion of the tape that they had bought prior to that.

• • • • • • • • • • •

2830 Q. Now, the fact is that Glasscraft had been buying this identical tape for some time before you be-
2831 gan to service their account at all, hadn't they? A. They had been—I served Glasscraft from the time they went into business, and as I told you that a minute ago, that when they first went in business I sent the Minnesota man over there.

• • • • • • • • • • •

2832 Q. In your Boston deposition, page 34— A. What page?

Q. Page 34. A. All right.

Q. I will read a question and answer and ask you whether you were asked this question and whether you made this answer:

> "Q. Now, Glasscraft had been buying this pressure-sensitive textile tape before you started servicing the account? A. That is right."

Did you so testify? A. Well, when I said servicing the account, I was referring to the servicing of that particular tape, not the account itself, because I can show you records if you want to see them that I had been selling them practically everything that I could sell them since they went into business. Now, I bought stock in the company when they first started in the business. Now, who else has a better chance of selling a company something than one
2833 who is a stockholder of the company?

• • • • • • • • • • •

2834 Q. How much Minnesota Mining tape did you buy for putting in your stock in 1953? A. Well, I don't know exactly how much I bought for putting in stock.
2835 That I don't know.

• • • • • • • • • • •

Q. And you never found it in the year 1953 necessary to buy much 3M tape to stock and to take care of your customers, did you? A. I bought what I needed from them, yes.

Q. And you didn't need much, in your opinion, did you? A. Well, as I said before, I had nothing to do with what people asked for. If they asked for "Tuck" tape I gave them "Tuck" tape. If they asked for Minnesota Mining or "Scotch" tape I gave them "Scotch" tape.

• • • • • • • • • • •

2837 Q. And the three that you mentioned are the only ones that make transparent cellophane tape? A. To my knowledge, yes.

Q. Let me ask you did you get a larger profit by selling "Tuck" tape than you did on 3M tape? A. In most cases, yes.

Q. Well, in no instance do you get less, do you? A. Well, that depends. . . . sometimes you have to take a little bit off the suggested price in order to meet their competition.

• • • • • • • • • • •

Q. — just speaking generally, it is more profitable to you to sell "Tuck" rather than 3M, isn't it? A. That's right, yes, it is.

The Court: Mr. Arnold, do I get the impression from what you have said that you had so varied a line that you

did not have an opportunity to be a salesman at all,
2838 that you were just an order taker?

The Witness: At times that is all I was.

The Court: You were just an order taker, not a salesman?

The Witness: That's right, your Honor.

• • • • • • • • • •

2839 The Court: Did it ever happen where, when you took an order for "Scotch" tape you filled it with "Tuck" tape?

The Witness: It may have been, but I don't recall whether it did or not.

The Court: All right.

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2841 The Court: Mr. Arnold, can you split this area that you occupied in 1953 so that we can tell what proportion of it was taken up with 3M products that you stocked?

The Witness: Well, we have a counter —

The Court: Give me the size of it.

The Witness: The counter is about as big as this bench and there are shelves on it —

The Court: Can't you give me an answer to that question?

The Witness: It would be an area of about 120 feet, but that area was not all stocked. It was divided between "Scotch" tape and "Tuck" tape.

The Court: Can you give me an answer to my question, if you will, please.

The Witness: Well, the split area was maybe about
2842 three by ten, but then you have about four shelves, and, well, you have masking tape on the top of it, so I don't know exactly what that area would be, but it was very small.

The Court: How much of that 120 feet — how much of the 120 square foot shelf area did you take up with the 3M products?

The Witness: In 1953?

The Court: Yes.

The Witness: About a quarter at the most.

• • • • • • • • • •

2843 The Court: You were selling "Tuck" tape from 1951 on, weren't you?

The Witness: That wasn't the only thing that I was selling.

The Court: And you were making a big profit on the "Tuck" tape, too, weren't you?

The Witness: But I mean that was not the only thing. There were so many other items on my line, and up until 1953, you see, I was alone, and I was on the road and I had no other salesmen, but since then I have put salesmen on the road, you see, because as you said before to me, I was more or less of an order taker for quite a while, and I realized that. You see, I did not have the time to do it, so I had to employ other salesmen to go out and take care of some of these things.

• • • • • • • • • •

2844 The Court: Well, you feel that 3M did not deal fairly with you on the Glasscraft account, don't you?

The Witness: No, I don't. You see, the way it happened was —

The Court: In the vernacular, you are sore at them?

Mr. Morris: I think he testified to that, your Honor.

The Witness: I said that in my testimony in Boston.

* * * * * * * * * *

Recross Examination

By Mr. Haight:

2851 Q. That is the only instance where you lost any customer, even on an order, was where Minnesota Mining made the only product of its kind and they had to get the 3M product and you couldn't get a substitute from "Tuck" or someone else; that is right, isn't it? A. No, I just told you a little while ago that I have found out since that there was one customer that I know of; . . .

2852 But I know that there is one customer who buys quite a bit of tape, as a matter of fact, since I gave this testimony I kept pestering him and pestering him, I wanted to know why he wasn't buying any more tape from me, and—

Q. How much business did he do with you? How much of your 3M tape sales were made to him in the year 1953, what percentage? A. I had just started to sell him tape, as a matter of fact, in 1953.

Q. What month? A. It was either July or August.

Q. Had he never used 3M tape before? A. Oh, sure.

Q. But he had been getting it from someone else? A. That's right.

Q. How much did you sell him? A. Well, I initially ordered them for 144 rolls of tape. As a matter of fact, I couldn't complete the order.

Q. So that the only customer that you lost was not one that you developed for the 3M products, but that 3M
2853 had developed itself and the man insisted on the 3M product, is that right? A. Well, that is right in a sense, but if I can explain how this thing happened, . . .

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2855 The Court: Did you carry a substantial quantity of tape or didn't you?

The Witness: I did, your Honor.

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2856 The Witness: If I had $150 worth of tape in stock—

The Court: That was substantial?

The Witness: That was substantial to take care of what I needed.

The Court: All right. That is what I wanted to find out.

• • • • • • • • • • •

2857 The Court: Your volume and your type of customer. Your volume, apparently, was about $500 in this kind of tape and you carried about $150 and that $150 was substantial in relation to your volume?

The Witness: That's right, your Honor.

The Court: That is all.

• • • • • • • • • • •

Testimony of Elizabeth Arnold, called as a witness by Technical.

(Record pages 2871 et seq.)

Cross Examination

By Mr. Haight:

2871 Q. Do you have any records with you? A. No, I am afraid I don't.

Q. Now, you discussed your testimony in this case prior to taking the stand? A. No, I wouldn't say that. They just asked me if I would mind.

Q. And when were you first asked? A. Just this morning.

Q. That is, you came to town not expecting to testify at all? A. No, I was hoping it was going to be a pleasure trip.

• • • • • • • • • • •

2878 Q. I believe you just told me that in 1954 you sold about $6,000 worth of tape of all kinds. A. That is right.

Q. And about how much did you sell in 1953? A.
2879 Well, I keep four books and I don't feel truthfully that I could tell you what I paid for tape, . . .

• • • • • • • • • • •

2881 The Witness: Your Honor, may I have one of those sheets, please?

The Court: You may ask counsel for it.

The Witness: On one of those sheets I made a few notes before I came down, but I did not have everything.

Mr. Haight: Just a moment.

Q. Did you bring any of your record sheets with
2882 you, any of your ledger sheets? A. I just made a few notes and summaries. They are not from my books.

. . . . . .

Q. How did you happen to bring this one with you? A. Well, that was an accident. I mean I tried to go through all these files, trying to get some information from them, but apparently I slipped up on this one.

Q. Now, what other sheets did you bring with you?

Mr. Morris: We have got some here that we had her make up when we contemplated asking Mr. Arnold about these. When we asked Mr. Arnold he had her make them up.

The Witness: This is just a summary of the total with the purchases in 1949. Now, I had nothing to do with this. I just took those.

I just took those invoices here that I had not paid
2883 for 1949.

The Court: What was the total?

The Witness: This was $1,927.

Q. Is that for 1950 or what? A. That is 1949.

Q. And the amount is $1,927.80? A. That is right. That is when he first started in business, see. That is right, just taken from old records.

Q. Now, as to 1950. A. And this is 1950, see, as nearly as I could find from the invoices. And the amount is $1,710.20.

Q. $1,710.20? A. Yes, to be exact. Then in 1951 it is not complete. I don't know what happened to this. I made

a note on this. Now this is from — this is mine that I did in 1952, which I had just started, or when I had just started working for Mr. Arnold in October, 1951, see, and this is what I forwarded from 1951, and so it does not give you a total because these are my invoices and these are the ones that I have paid.

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2884 Q. Well, now, can you from this sheet tell us the total payments to Minnesota Mining by you in 1952? A. Don't ask me to do that in my head. I work with a calculator.

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Q. And these will represent actual payments in 1952 and I will read the figures off and you see if they are right.

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2885 Q. $212.34. A. Yes.

Q. $161.95. A. Yes.

Q. $72.15. A. Yes.

Q. $96.77. A. Yes.

Q. $715.42. A. Yes.

2886 Q. $247.46. A. Yes.

Q. $1,802.20. A. Yes.

Q. $138.57. A. Yes.

Q. $221.39. A. Yes.

Q. $120.61. A. Yes.

Q. $207.90. A. Yes.

Q. $290.33. A. Yes.

Q. $101.40. A. Yes.

Q. $138.37. A. Yes.

Q. And $79.59, is that right? A. That is right.

The Court: And the total of those sums represents the total purchases, does it not?

The Witness: Yes.

. . . . . .

2887 Q. Now, did you give the total for 1953? A. No, I did not.

Q. Well, I will read off the payments in 1953. The first one, $298.13. A. Yes.

Q. That was for the payment of an invoice at the end of the year? A. That is right.

Q. Then $400.33. A. Yes.

Q. $71.76. A. Yes.

Q. $81.50. A. Yes.

Q. $46.32. A. Yes.

2888 Q. $21.58. A. Yes.

Q. $63.60. A. Yes.

Q. And $226.42, is that correct? A. That is right.

Excerpts from Plaintiff's Exhibit 142

Deposition Testimony of Plaintiff's Witness—**Eli Ackerman.**

(Page numbers at left refer to pages of deposition transcript.)

Cross Examination

By Mr. M. K. Hobbs:

. . . . . .

63 Q. When did your company first start to handle "Tuck" brand cellophane tape? A. At the same time.

. . . . . .

64 Q. And you think that was in May, 1952? A. That is right. I would say the latter part of the spring or the early part of the summer. I don't recall what month, the exact day, or what it was, but I know it was—if, for argument's sake, we want to put it at about the middle of the year, that is it. It might be thirty days either way.

Q. That is close enough. We won't hold you any closer than that. Now, when your company began selling the "Tuck" line, and I include in "Tuck" line both the masking tape and the cellophane tape, did you do anything to announce to your customers and prospective customers that you were taking on that "Tuck" line? A. Yes, we did.

65 Q. What did you do about that? A. The method of announcement?

Q. Yes. A. Well, we held a sales meeting with our salesmen and told them we were taking on a new line of tape, the Technical Tape "Tuck" line, and to my estimation, I thought it was a good line of merchandise, it was comparable to what we were selling, and the price was lower.

Q. Now, that was to your salesmen? A. That is right, and they in turn conveyed that to their customers.

Q. How many salesmen do you have, or did you have at this time? A. At that time I would say we had twelve men.

Q. You mentioned yesterday something about a circular. Did you send out a circular announcing your new line of pressure-sensitive tapes? A. Yes, we incorporated that in our circular, yes.

Q. You sent that both to customers and prospective customers? A. Right.

Q. About how many did you send out of these
66 circulars? A. Well, now—

Q. Well, was it a matter of hundreds or thousands or what? A. Well, yes, it was thousands. I am just trying to recall what that mailing piece consisted of. It might have been about a quarter of a million pieces.

• • • • • • • • • • •

67 Q. In the same circular did you advertise "Scotch" brand tapes? A. No, sir I don't think we did.

Q. Just the "Tuck" brand? A. Right.

Q. And you said nothing about the relative prices of them? A. Oh, no sir.

• • • • • • • • • • •

69 Q. Did you make more money in the sale of
"Tuck" brand tapes than you did in the sale of
70 Minnesota Mining tapes? A. That is right.

Q. It was to your advantage, therefore, to sell "Tuck" brand tapes, if you could? A. Moneywise, you are correct.

Q. Therefore, you tried to push that tape? A. That is right.

Q. Now, if a customer asked for "Scotch" brand tape,

did you try to convince that customer that he should buy "Tuck" brand instead? A. Yes, at a lower price.

Q. At a lower price? A. That is right.

Q. To his advantage and to your advantage, you thought? A. That is right.

Q. But suppose a customer came and asked for a "Scotch" brand tape— A. Who insisted on it?

Q. Yes. A. We gave him "Scotch" brand.

. . . . . .

86 Q. Mr. Ackerman, I hand you what has been marked Defendant's Ackerman Exhibit 1 for identification. Is that the circular which you were referring to a few minutes ago in your examination with me? A. Right.

87 Q. Now, is that circular dated? A. I don't see any date on here. I don't believe it is.

Q. You will have to refresh my recollection. You told me once, but I have forgotten, your best judgment as to when that was published and distributed. A. In the fall of 1952.

. . . . . .

Q. Now, I call your attention to the last page of this exhibit, Mr. Ackerman. By the last page, I mean the back cover. That carries the announcement of "Tuck" brand cellophane tape, does it not? A. Right.

Q. It takes up more than half the page? A. Right.

Q. Now you follow me and see if I read correctly your announcement found in this presentation of "Tuck" brand tape:

88 "Top quality transparent cellophane tape. An entirely new cellophane tape with exclusive specifications."

Now let us pause there a minute. Why did you say this was an entirely new transparent tape? A. Why did I say it?

Q. Yes. A. Well, I would have to recheck our copy that our advertising man wrote, to be frank with you.

Q. Well, it is just like "Scotch" brand tape, isn't it? A. Yes. It answers the same purpose.

Q. Then it was not right to say it was an entirely new transparent tape, was it? A. I suppose what they meant is that it was a new line of tape.

Q. Well, now let us continue with the quoting of this announcement:

"Clear and fully transparent, premium quality cellophane, with superior and uniform tack."

Is it superior to "Scotch" brand tape in tack? A. I imagine that would be a question for experts to answer.

89 Q. You don't know? A. Do I know personally if it is superior?

Q. Yes. A. Well, like I say, I am not an expert on cellophane tape. I couldn't answer that question properly. I don't know.

Q. But your company made this representation to the customers, did it not? A. Yes. If it is there, we did.

Q. Now, I continue:

"Priced sensibly to save you money! The tape with a million office and household uses. Fits all standard dispensers. Write for quotation on larger quantities."

Now, this phrase that I read, "Priced sensibly to save you money," that is printed in bold face type, is it not? A. Bold face?

Q. Bold face, yes. A. Yes.

Q. That was meant to entice customers to buy this tape instead of Minnesota Mining tape? A. Well, either
90 Minnesota Mining or Industrial tape, or I believe at that time Pax was still selling tape. I don't recall. There were other people manufacturing cellophane tape, exclusive of Minnesota Mining.

Q. But this, your "Tuck" tape, you are informing your customers could be bought at a less price than the other tapes? A. That is right.

Q. So your company was pushing this tape to the exclusion of Minnesota Mining tape?

. . . . . .

A. All other tapes.

91 Q. Including Minnesota Mining tape? A. Yes. They are considered a manufacturer of cellophane tape.

. . . . . .

94 Q. Now, what was the amount of purchases from the Minnesota Mining & Manufacturing Company in the year 1950? A. $36,492.15.

Q. Now, the other figure you have got is purchases from Minnesota Mining Company for the year 1952? A. 1952 was $27,780.99.

Q. Give it to me again, will you? A. $27,780.99.

. . . . . .

Deposition Testimony of Plaintiff's Witness—

R. V. Arvey.

(Page numbers at left refer to pages of deposition transcript.)

Cross Examination

By Mr. H. J. Kinney:

156 Q. In earlier catalogs you had included Minne-
157 sota Mining's products, had you not? A. Yes. In some mailing pieces we had it probably before we did business with Technical Tape, yes.

Q. What led you to drop the Minnesota Mining products from your catalog? A. Because we were showing our customers that we had a tape that was less money.

. . . . . .

158 Q. Last week, I understand Mr. Schultz ordered some masking tape from Minnesota Mining at your request? A. That is right. He phoned the order in and mailed that copy marked "Confirming".

Q. Now, who asked you to place that order? A. Who asked me to place the order?

Q. Yes. A. Nobody asked me to place the order. I testified that Mr. Kipnis called me and asked me if we are still doing business with Minnesota Mining, and I said, no, we weren't.

Q. Then what did Mr. Kipnis say? A. What did he say?

Q. Yes. A. That is all that he said, and I of my
159 own volition sent out the order.

Q. The telephone conversation just stopped there? He called up and said, "Do you still do business with Minnesota Mining?" and you said, "No, we don't"? A. I said, "No, and I haven't tried. I will try again."

Q. Well, the inference of his call was that you should try again, wasn't it? A. No.

Excerpts from Plaintiff's Exhibit 144

Deposition Testimony of Plaintiff's Witness—**Samuel S. Rosendorf, Jr.**

(Page numbers at left refer to pages of deposition transcript.)

Cross Examination

By Mr. J. W. Hofeldt:

21 Q. Disregarding drop shipments, what were your purchases from Minnesota during the year of 1953? A. I couldn't answer that question. I do not know.

Q. They were very small, were they not? A. We do have certain accounts out of town which all the tape that we have sold have been shipped direct, instead of bringing them into our company and reshipping them. Where there were 72 rolls or more, I think was the maximum discount at that time. We would have them shipped direct to the customer. But I would say that drop shipments were the smaller part of our business.

Q. During the year 1953?

. . . . . .

22 A. In the year of 1953 the majority of our shipments were drop shipments. I didn't understand the question before.

• • • • • • • • • • •

24 Q. What were your average purchases for stock purposes during 1952, by months, now? A. I couldn't answer that question. We purchased approximately I would say 3 thousand dollars, which would be roughly speaking $250.00 a month, would it not?

Q. Yes. A. I mean, I just do not know except that we did check the year before and I think our purchase for that year ran approximately 35 hundred dollars.

Q. That was all for stock? A. No. It wasn't all for stock. It was some drop shipments too. That is what I answered originally when I misunderstood which year you were referring to.

Q. You testified in the fall of 1952 you heard of Technical Tape Corporation. Then you also testified on direct examination that you sold Minnesota Mining and
25 Manufacturing Company tapes to December 1953? A. That is right.

Q. When did you again begin handling "Tuck" brand tapes, or when did you begin, I mean? A. In the fall of 1952.

• • • • • • • • • • •

Q. In your direct examination you stated that you had bought, you had purchased from Minnesota Mining
26 certain types of tapes, and from Technical Tape— A. No, it was just whatever tapes that we may have needed to fill customers' orders.

• • • • • • • • • • •

27 Q. Disregarding Reynolds now, do your other customers receive special attention, to your customers have you pushed "Tuck" tape? A. We have pushed it.

Q. To the exclusion of Minnesota Mining tapes? A. I wouldn't say to the exclusion of any one tape.

Q. But you have more aggressively pushed "Tuck" brand tapes than others? A. Yes, that is to our advantage.

Q. It was to your advantage, and you did so? A. That is correct.

Q. It was to your advantage pocket wise? A. That is right.

28 Q. As to your over the counter sales, have you aggressively pushed "Tuck" tape? A. Well, I would say this, that our over the counter sales are mostly for the smaller rolls of tape. The 15 and 25 cent rolls. We have always usually put Minnesota or Texcel on that particular type of item.

Q. But on other size tapes— A. We have had Texcel in stock since December of 1953. We have carried some tapes of Texcel in stock, as well as Technical tape.

Q. Prior to December on tapes where Technical tape had the same size tapes that were called for by the customers, did you push it in preference to Minnesota Mining tape? A. Yes, I would say that we did.

Q. You have pointed out to the customer the price difference? A. That is correct.

Q. You have made it a point of doing that? A. Yes.

Q. At every possible opportunity? A. Well, when it

was possible we did, because we believe that the tape manufactured by Technical Tape was in every respect as good as that manufactured by Minnesota Mining. We could
29 see no difference in the quality of the tape.

Q. But you pushed "Tuck" tape whenever the opportunity arose, you did that? A. That is right.

Q. To the exclusion of Minnesota Mining tapes? A. That is correct.

Q. And that is also true of your other customers, is it not? A. Yes. However, if a customer asked us for a particular brand of tape, a lot of people just come in and ask for a roll of tape. When we had calls for Minnesota tape we secured (it). If we didn't have it in stock, we went out and got it and supplied it.

Q. If they insisted upon it? A. That is right.

Q. But you first tried to sell them "Tuck"? A. We may have shown them the tape and said this is the tape which we consider just as good, and it may be just a few cents less.

Q. And you have also done that even on tapes that you have had Minnesota Mining tapes that you have had in stock, have you not? A. Yes.

Q. When a customer came in and asked for Min-
30 sota Mining tape— A. We might have shown him both tapes and said that we can save you—

Q. Even though they had asked for "Scotch" brand tapes? A. That is right.

• • • • • • • • • •

31 Q. As to those paper companies, are they handling both? A. The paper company I think, I would not be sure

—I have been told that they handled products of
32 Minnesota, and they also are handling Technical Tape.

• • • • • • • • • • •

34 Q. Did you give your salesmen any instructions as to when they solicited orders that they were to push Technical Tape? A. I don't recall if I gave them orders. We had a sales meeting when we took the line on, and their salesmen explained the various setups to our salesmen.

Q. Was it a company policy after that time to push Technical Tape? A. Yes, sir.

Q. To the exclusion of Minnesota Mining? A. I wouldn't say to the exclusion, but it was—

Q. In preference to it? A. Yes. I would say so.

Q. And those were instructions to salesmen? A. That is correct.

Q. You had submitted an affidavit which was executed by you on the 28th day of May, 1954? A. I have seen a copy of that.

Q. Do you know who that affidavit was prepared
35 by? A. Prepared by?

Q. Yes. A. The firm of lawyers, you mean?

Q. Yes. A. Yes, I can tell you (looking in notes in pocket). No, I have a copy, but not the letter.

Q. Do they represent Technical Tape Corporation? A. As far as I know they do.

Q. They were not your attorneys? A. No.

Q. Did you volunteer this information to Technical Tape Corporation? A. Yes.

Q. You told them about it? A. That is correct.

Q. Why did you do that? A. Well, when we were cut off by Minnesota, we naturally thought it was to our best advantage to tell our other factory just what happened.

. . . . . .

37 Q. You have testified that as far as you were concerned the cellophane tape of Technical Tape Corporation was identical with that of Minnesota Mining. A. I think I stated that it was just as good. Now, it so happens that we received a contract from the State of Virginia for the period of July 1, 1954 to June 30, 1955, for cellophane tape. We submitted the samples of "Tuck" Tape, and the State of Virginia tested it against other brands of cellophane tape that they were quoted on.

Q. Including Minnesota? A. That is something I don't know. And they found that in their tests, they had a firm of chemists, people of that nature, to test the tape. They found that it was equally as good as other tape or tapes that they had examined at that time, and we were given a contract.

Q. Do you know of any difference between the two? A. No, I do not.

Q. You sell them to the same users, or did you sell both cellophane tapes, the "Tuck" brand and "Scotch" brand to the same type users? A. Yes, sir.

. . . . . .

Recross Examination

By Mr. Hofeldt:

40 Q. Mr. Rosendorf, at my request you have pro-

duced from your office records of monthly purchases of tape products from Minnesota Mining for stock purchases for the period of April 1953 through the month of November, 1953, have you not? A. I have. And we have
41 found by the evidence of the invoices that we purchased approximately $200.00 worth of pressure-sensitive tape during that period for stock.

Q. Your records show purchases during the month of April for stock purposes in what amount? A. $111.53.

Q. And in May? A. None.

Q. June? A. None.

Q. July? A. $65.43.

Q. In August? A. $18.00.

Q. In September? A. None.

Q. In October? A. None.

Q. November? A. None.

Deposition Testimony of Plaintiff's Witness—**Allen B. Cammack.**

(Page numbers at left refer to pages of deposition transcript.)

Cross Examination

By Mr. Tofeldt:

54 Q. How large a town is Burlington? A. About 30,000.

Q. Does it serve a farming community around it? A. It is more of a textile area.

Q. It has a larger trade area then than would any other normal city that size? A. It has more industrial business according to its size than you would find in a 28,000 location.

Q. Did I understand you correctly that you carried the Minnesota Mining line of tapes to October, 1953? A. That is my best recollection.

Q. You did not carry them afterwards? A. I carried what I had in stock; I bought no more after that.

Q. Did any Minnesota Mining representatives visit you after October, 1953 to the meeting in February, 1954? A. I think this Gensure boy came in, I was told that, that is my recollection.

Q. You gave him no orders though? A. Well, I was the one that ordered this particular product and if he came in my absence he didn't see anybody that would give him an order. We sent in orders, I believe.

Q. Did you send in any orders during that period, namely from October, 1953 to February, 1954? A. I don't have my orders with me and as to that I don't know.

Q. You have no recollection at all? A. I don't know, I have a file in my business that would answer that question.

Q. Did I understand you to say there were only two outlets in that business? A. Two retailers.

Q. Did I understand you correctly that at one time you were the only retail stationer in Burlington who handled Minnesota Mining products? A. That was my understanding when Mr. Davis was calling on me.

Q. And when later the other stationer began to handle Minnesota Mining? A. Well, he had Texcel during the

time and I had Minnesota Mining and later he began handling Minnesota Mining. He handled Minnesota Mining with his Texcel and I handled Texcel with my Minnesota Mining.

• • • • • • • • • •

57 Q. Did you aggressively push "Tuck" tape after
58 you started with them? A. Well, we sold it.

Q. Did you try to sell it to former users of "Scotch" brand tape? A. We did sell it to our customers.

Q. Did you try to sell it to them in preference to Minnesota Mining? A. We didn't have any other brands and we sold it.

Q. You had no other brand at that time? A. We had a few rolls of your company's tape.

Q. And you made no effort to replenish that tape? A. I don't know.

Q. But during that period from October, 1953 to February, 1954, you made no effort to replenish that supply? A. Well, I don't know whether we did or not. We sold what we had on our shelves and I don't recall if we did or did not re-order. I can tell by my records.

• • • • • • • • • •

59 Q. At any time subsequent to 1954 have you tried to get orders filled by Minnesota Mining? A. No, not when Gensure turned my orders back.

Q. Well, it is fact then that you do not know if Minnesota Mining would fill your orders? A. A salesman told me they wouldn't, he brought my order back.

Q. And you are relying entirely upon your salesman? But you have never tried since 1954 to get an order filled by Minnesota Mining? A. No, I have not tried.

• • • • • • • • • •

61 Q. Do you have an across-the-counter sales in your business? A. Yes.

Q. Did you at any time display "Scotch" tape in dispensers? A. Yes, I bought some "Scotch" tape dispensers from a jobber after that and we sold them and it is possible that we displayed "Tuck" cellophane tape in "Scotch" tape dispensers.

• • • • • • • • • • •

62 Q. But you don't deny that you might have displayed "Tuck" tape in "Scotch" tape dispensers? A. It could have happened, I certainly saw no reason for not doing it.

• • • • • • • • • • •

65 Q. Doesn't the Minnesota Mining & Manufacturing Company have sales meetings for its distributors? A. I never attended any, I don't know that they did.

• • • • • • • • • • •

66 Q. Did you ever attend any displays that Minnesota Mining might have had at one of your regional meetings? A. No.

Q. Were you invited? A. I presume so, if I ever attended the convention.

Excerpts from Plaintiff's Exhibit 145—Deposition Testimony of Plaintiff's Witness, **Seymour H. Rosenblatt**

(Page numbers at left refer to pages of the deposition transcript)

Direct Examination

By Mr. Kipnis:

• • • • • • • • • • •

7 Q. You learned that the City of Cleveland was in the market for cellophane tape; is that right? A. That is right.

Q. And then did you submit a bid or an offer to supply at that time? A. Yes.

Q. Whose brand of tape did you offer in that bid? A. This particular bid, we offered "Tuck" tape.

Q. And were you awarded a contract on that bid? A. We were awarded the contract.

Q. And then you filled the order? A. Yes. But it was returned to us.

Q. The tape was returned to you? A. That is right.

Q. You didn't say that at the time that you gave me the affidavit? A. No. We have since picked up the tape on it. That was because the dispensers were no good, wouldn't tear off. We have papers at Tuck Tape where we returned it for full credit.

• • • • • • • • • •

Cross Examination

By Mr. Hofeldt:

16 Q. I noticed that in your direct examination you said that the bid from the City was marked "Scotch Tape"? A. That is true.

Q. And you are positive of that? A. Yes; "Scotch" Tape.

Q. You have seen your original affidavit which is right there before you? A. Yes.

Q. On page 2 thereof, about six lines from the bottom,

it says, "Scotch Cellophane Tape." I will refer you to it. A. Yes; that is right.

Q. Which is the fact? Is it as you just testified or as it is there? A. That is true, because I called up the buyer there and he said, "It is 'Scotch'. That is the trade name identifying it, but we can accept anything equal."

• • • • • • • • • •

17 Q. Is it not a fact that they always say "Scotch Cellophane Tape"? A. Yes.

Q. Or its equal? A. No. Many times they don't put down "its equal."

Q. But they do at times put down "its equal"? A. Sometimes they might, but many times they don't. Are you talking about tape or other office supplies?

Q. Tape. A. Oh, yes.

• • • • • • • • • • •

20 Q. When did you first learn that there was a patent on Minnesota Mining transparent cellophane tape? A. When Mr. Howard told me.

Q. And about when was that? A. That was about,
21 oh, two weeks before the bid they were talking about.

Q. And between the time that he told you that and the time that you submitted your bid, you then knew that there was a patent involved at that date? A. Yes.

Q. But you submitted it anyway? A. Yes.

• • • • • • • • • •

24 Q. This telephone call to the Department of Justice, will you describe to me just what you did? A. I dialed the phone.

Q. You dialed the number? A. Without looking it up. I might be wrong. I think it is Cherry 1-7900.

Q. You didn't have to look it up at that time? A. No.

Q. How did you know about the Department of Justice, Anti-trust Division? A. Oh, that is real easy.

Q. I want to know. A. Because they have been coming to me a great deal regarding a pending inquiry against some stationers in Cleveland. We have been corresponding and telephoning.

Q. You were investigated in respect to that, too,
25 weren't you? A. Yes.

• • • • • • • • • •

Q. About when was this investigation with regard to the local stationers group indictment? A. Oh, the indictment, or whatever you want to call it—I don't even know that they have been indicted, but it was, approximately, I would say, within three months. April.

Q. About April of 1954? A. Yes; it has been going on for some time. I don't remember just when it started.

26 Q. The investigation started before April, 1954? A. I don't know. I don't know what the Justice Department does.

Q. Did they approach you before April of 1954? A. Oh, yes.

Q. They had approached you? A. Yes.

Q. At various times? A. Yes; at various times.

• • • • • • • • • •

27 Q. In regard to the complaint that you say that you made to the Department of Justice about the Minnesota Mining and Manufacturing Company as the result of these salesmen's conversation with you— A. Let me stop you right there. It wasn't a complaint. It was actually that I wanted to know if they had the right to come into my office and tell me that I can't handle another brand.

* * * * * * * * * * *

32 Q. You are familiar with the prevailing rates of discount enjoyed by distributors in Cleveland? A. I think so.

Q. What is the distributor's discount on Minnesota Mining and Manufacturing Company's tape, seventy-two rolls or more? A. What width?

Q. Various widths. A. The 1296 is forty.

Q. Forty per cent? A. Yes.

Q. What about 2592? A. I think about thirty-five.

Q. That is thirty-five per cent? A. Yes.

Q. What is the maximum discount allowed on a drop shipment on an order of 1152 rolls? A. I never drop shipped that many.

Q. You never have? A. No; not to my knowl-
33 edge. Eleven hundred and fifty two rolls?

Q. Yes. You never have? A. Wait a minute. I am just trying to think. That strikes me as a lot of orders. For me at least. Eleven hundred and fifty two rolls? There might have been once, but I can't recollect it now.

Q. That is a lot of tape, isn't it? A. That is a lot of tape.

Q. That is an awful lot of tape, isn't it? A. Yes; that is quite a bit of tape.

Q. You said that you did it once? A. I said that I might have done it once.

Q. Did you ever drop ship an order to a restaurant next door to your place? A. Yes.

Q. What was the purpose of that order? A. The purpose of that order was that she was going to use it in some kind of gift wrapping.

Q. Gift wrapping? A. Yes.

Q. What kind of establishment is that? A. That is a restaurant. Trucker's Haven Restaurant, she calls it.

Q. Who is she? A. Mrs. Charles.

34 Q. She was going to gift wrap 1152 rolls of tape? A. That is right.

Q. Wouldn't you get an additional seven and one-half per cent discount on such orders? A. Yes.

* * * * * * * * * *

Redirect Examination

By Mr. Kipnis:

37 A. Let me put it in a statement here of my own, if I may. May I or may I not?

Q. Surely. A. I have no qualms against your company or his company. I hold it more against the representative who came in and told me that. As you know, we have continued purchasing from the Minnesota Mining and Manufacturing Company. As a matter of fact, our sales have increased very greatly.

* * * * * * * * * *

Recross Examination

By Mr. Hofeldt:

. . . . . .

Q. Who carried on the bulk of this conversation with you? A. We talk with salesmen all the time.

Q. I mean when Messrs. Groth and Howard were in your office. A. Mainly Mr. Howard.

Q. Mainly Mr. Howard? A. Yes.

Q. Was Mr. Groth his superior? A. As far as I know, he is.

Q. He is in charge of the entire Cleveland area, isn't he? A. As far as I know he is.

Q. When you want to buy tape, whom do you call? A. Groth or Howard? You mean the one whom I call?

Q. That is right. A. I call for Harry Howard.

Q. As I understand, Mr. Howard was the one who carried on the conversation? A. Yes. I would say that he carried on the majority of it.

Q. Would you say ninety per cent of the conversation? A. I would say that Harry got very hot while he was talking to me, and I got pretty hot, and then Mr. Groth—

Q. At the time that—

Mr. Kipnis: Mr. Groth did what? A. Mr. Groth was more or less in the background.

Q. He didn't say anything? A. Oh, yes; he said a little, but Mr. Groth was more or less—when he saw that we were angry, he was more or less an appeaser at that moment

because the words were carried on mostly between Harry and myself.

Q. You mentioned that two weeks before this incident Mr. Howard was quite friendly with you? A. Yes. Up to that very time. On this deal, after they had left the office, I decided that we would continue carrying Minnesota Mining tape, but I didn't want—I called up Mr. Groth and told him that there was no need for Mr. Howard to call on us any longer.

. . . . . .

44 Q. Incidentally, you are still a jobber of Minnesota Mining and Manufacturing Company products? A. Yes.

Excerpts from Plaintiff's Exhibit 40

Deposition Testimony of Plaintiff's Witness—**Abraham Trachtenberg.**

(Page numbers at left refer to pages of deposition transcript.)

Cross Examination

By Mr. Kinney:

33 Q. Did you check your records with respect to any of your testimony that you gave here today, Mr. Trachtenberg? A. Yes, I have.

Q. Well now, I understand in your previous testimony that you said your first purchases from Minnesota Mining of pressure-sensitive tape were in the year 1952. Did I hear you incorrectly or was your answer incorrect? Do you want to modify that? A. To be 100 percent certain,

I would have to go back and check my records from the time we started in business, actually, because there is one thing I would like to point out, it might be well to have that show, I am only in the office a very small period of the time, and a lot of the purchasing is done by other members of the organization whom I have delegated that responsibility to, so it is possible purchases were made without my knowledge and which I would have no record of as an individual.

Q. What was the basis of your checking your records? What were you looking for when you checked your records to get ready for this testimony? A. The thing I was looking for in checking my records to get ready for this testimony was when we started to do business regularly with Minnesota Mining.

Q. Did you ever do business regularly with Minnesota Mining? A. Not to my knowledge.

Q. I understand you did check your records as to purchases of pressure-sensitive tape from Minnesota Mining by your partnership in 1952, is that right? A. Cor-
34 rect.

Q. Can you tell us what the total purchases were in the year 1952, and if you want to step in the next room and look at your records, why that is all right. A. (No response.)

Q. Or if that is too difficult—I see it is giving you some difficulty—if you can give us the approximate purchases. A. I will put it this way. I don't feel I have any right as an individual to disclose any records that our books may show, without consent of the other members of the concern and they are not available at the present time.

Q. Well, Mr. Trachtenberg, we have notice here that you are to testify today and you testified on direct examination about purchases from Minnesota Mining, about purchases of tape, and unless counsel for the opposing parties have some objection, I believe you ought to go ahead and answer those questions.

• • • • • • • • • •

Q. Yes. You have your record now of purchases of tape from Minnesota Mining? A. Yes.

35 Q. In what year? A. 1952 and 1953.

Q. Can you give us those purchases for 1952, total purchases? A. Total purchases?

• • • • • • • • • •

Q. Give us either the total purchases for 1952 or the individual purchases. A. Let me do it my way. November 21, 1952, $90.79. Strike that out. We will start right. November 12, $90.79.

Mr. Hamilton: 1952.

The Witness: Right. Paid November 21, $90.79. November 26, ditto. December 8, paid ditto.

Q. What was that amount? A. $90.79.

Q. The same amount of money? A. Yes.

Q. All right. A. December 1, $44.02. December 19, $90.79. That December 1st was paid on December 10, $44.02. Now, we go to December 19, $90.79.

Q. Is that all of it for 1952, now? A. Yes.

Q. So that would be somewhere in the neighborhood of $300 in purchases, or a little over that, or perhaps $310, something like that?

• • • • • • • • • •

Q. That is approximately right, isn't it? A. Yes.

Q. That is the total purchases for 1952. Do you know, as a matter of personal knowledge, that all of those items of $90 and some cents, were all for the same kind of tape? A. No, I do not.

Q. You don't know that? A. No, I don't.

Q. Do you know whether they were all for the same customer? A. No, I don't know that.

Q. Do you know who your main customer for Minnesota Mining tape was at that time? A. Not without checking the records.

Q. Might it have been some shoe company? A. Very possible.

Q. Does that refresh your recollection? A. Yes.

Q. What shoe company might it have been? A. Either —well, it could be either—wait, now, let me think. It will be either Mutual Shoe Company, Ware Shoe Company, or it might have been another.

Q. Now, in your direct testimony I understood you said that in your discussions with Minnesota Mining you had a new customer for tape that Minnesota Mining, that had never used Minnesota Mining tape previously? Was that the answer? That it meant new business? Did you mean it meant new business to Minnesota Mining or new business to Edwards Paper Company?

A. It meant new business to both of us.

Q. This customer you were talking about had never bought Minnesota Mining tape before? That was the sense of your answer, was it? A. You are saying that specifically we were referring to one customer.

Q. Were you referring to more than one? A. No, we were referring to more than one customer.

Q. One shoe company bought the bulk of Minnesota Mining products that you ever bought and resold, did it not? A. I think you are right.

Q. With respect to that company that bought the bulk of all your Minnesota Mining tape that you bought and resold, do I understand that your testimony is that that company had never used Minnesota Mining tape before? A. No, I didn't say that.

Q. You did not say that? A. I don't know if they had ever used Minnesota Mining tape before.

Q. So you don't know if that was an old account or a new one, as far as Minnesota Mining & Manufacturing Company was concerned? A. Correct.

Q. Do you know when your partnership first made any sale to the Ware Shoe Company, of any kind of product? A. 1946.

Q. 1946, and when did you first sell pressure-sensitive tape of anybody's manufacture to Ware Shoe Company, if you know?

38 A. I would have to check my files.

Q. I see. You don't know that as a matter of recollection? A. As a matter of recollection, no.

Q. Do you know as a matter of recollection whether it was before 1952? A. No, not without checking my files, and we have customer files that go back that far.

• • • • • • • • • •

40 Q. None at all. Now, 1953, what were your purchases? You can just list those. You don't

have to give us the date paid, if you don't want to. Just list the quantities of purchases and the reporter will tabulate them. A. January 16, $90.79. February 4, $181.58.

Q. Is that all for the year 1953? A. That is all for 1953.

• • • • • • • • • •

42 Q. Now, do you have there the list of your sales of "Scotch" brand No. 880 tape to Ware Shoe Company? A. 11-18-52, one case.

Q. Yes. A. Do you want me to go ahead?

43 Q. Go ahead with each of them.

• • • • • • • • • •

A. 11-26-52, one case. 12-19-52, one case. 1-16-53, one case. 2-4-53, two cases. Well, I doubt if there would be anything further than that because that's about when we—

Q. That aggregates all your purchases from Minnesota Mining except that purchase of $40 and some cents, doesn't it? A. How many did I give you?

The Reporter: Five.

The Witness: Right. The answer to my last question was right.

Q You don't know where that $40 worth of tape went to, do you? A. That may have also been to Ware Shoe for all I know.

• • • • • • • • • •

44 Q. Didn't you have the tape of another brand which would fill the spot that this No. 880 "Scotch" brand tape filled? A. No.

Q. There must have been a "Permacel" tape that would

match that, wasn't there? A. If there was, we aren't familiar with it.

Q. You weren't? Wasn't there a "Tuck" brand tape that matched that? A. No.

Q. There wasn't? A. No.

Q. Is that the reason why you wanted to buy the "Scotch" brand? A. One of the reasons.

• • • • • • • • • •

45 Q. You did not know they did not have a "Tuck" brand tape to match that? A. To my knowledge, at the time there wasn't any "Tuck" brand tape that would match that.

Q. Did the customer insist on the "Scotch" brand? A. I can't recall whether he insisted on the "Scotch" brand or not.

Q. But it was the only thing that you knew of that would fill the bill at Ware Shoe Company, is that right? A. (No response)

Q. Let me say, "fill the need at Ware Shoe Company". A. Let me answer it in this manner. The customer was interested in a certain type of tape for what we assumed a usage, of what we had no knowledge. He asked us about it. We were familiar with a tape that would do what he wanted it to do.

Q. And he knew that the "Scotch" Brand No. 880 would do what he wanted it to do, is that right? A. I assume he did.

• • • • • • • • • •

48 Q. Do I understand you do not recall whether they asked you to supply "Scotch" brand No. 880 tape,

or whether they simply stated a problem to you? A. In other words, you are saying did he say to me, "Do I want 'Scotch' brand 880 specifically"?

Q. No, I am saying, do you recall whether either of those two things happened? A. No, I don't.

• • • • • • • • • •

50 Q. Now, your sales of Technical Tape Corporation have been continuous since you first started selling that product? A. Yes.

51 Q. And that was, I think you said, in 1947? A. In 1947.

• • • • • • • • • •

Q. And you have been Technical Tape Corporation's active jobber in this area since you first started handling their tapes? A. We have.

Q. And these particular depositions are being taken at your office, are they not? They are.

52 Q. And you voluntarily agreed to appear here without any subpoena or anything, is that correct? A. I did.

Excerpts from Plaintiff's Exhibit 42

Deposition Testimony of Plaintiff's Witness—Albert S. Drew.

(Page numbers at left refer to pages of deposition transcript.)

Direct Examination

By Mr. Spille:

. . . . . .

4 Q. Does that mean you are in charge in New England of sales of pressure sensitive tape made by "3M" Company to wholesalers who are distributors, who are jobbers, whose customers in turn are plants and factories? Is that a fair statement? A. I think it is, yes sir.

Q. In other words, you do not supervise the sales of Minnesota tape to jobbers or customers who ultimately sell to small retail stores such as Woolworth's, or corner drug stores? A. No, I have very little to do with that.

Q. How many salesmen do you supervise, Mr. Drew, at the present time? A. Eight.

Q. Who is your supervisor? A. Mr. J. B., I think it is, Bennison, B-e-n-n-i-s-o-n.

Q. Where is Mr. Bennison located? A. He's located in our Ridgefield, New Jersey office.

Q. What is his title? A. Eastern Regional Sales Manager.

. . . . . .

6 Q. Are you in a policy-making position for Minnesota Mining & Manufacturing Company? A. No, sir.

Q. Do you carry out policy transmitted to you through the chain of command? A. To the best of my ability.

Q. And in that chain of command your immediate contact is Mr. Bennison? A. Right.

Q. And do you know who directs Mr. Bennison's activities, or supervises them? A. Recently they have
7 appointed a general sales manager in St. Paul, the home office. E. W. Decker.

* * * * * * * * *

13 Q. I see. Do you know what the Minnesota Mining policy is regarding distributors or jobbers in the industrial field? A. In a general way. There are quite a few conditions in there.

Q. Has the policy changed in any way in the last two years? A. There has been a slight—there has been a change, yes.

Q. Do you know what the change is? A. Yes, sir.

14 Q. Can you tell us? A. We now have a policy—

Mr. Kinney: Let me interpose this objection, Mr. Spille. I think you understand from what Mr. Drew has already said, he does not make policy.

Mr. Spille: No, I am simply examining him on his knowledge.

Mr. Kinney: If there is anything critical of what Minnesota Mining & Manufacturing Company's policy is, this witness is not the right one to get that information from.

Mr. Spille: I assume there is a possibility of that. I simply asked if he knew what the policy was.

Mr. Kinney: What his understanding was of the policy.

Mr. Spille: That is right, and we must take up later the question of how correct or authoritative his understanding may be.

Q. Can you tell us what that policy is, or what your version of it is? Let's take 1950 as a base year. What was the policy of Minnesota Mining & Manufacturing Company with regard to distributors and jobbers handling or about to handle pressure-sensitive adhesive tape? A. Well, they had to meet certain requirements. They had to have an office. I am reciting this from memory.

Q. Yes. A. They had to have a warehouse. They
15 had to have one salesman over and beyond the owner or manager, and, of course, always essential, being able to pay their bills. We also wanted to know what field of endeavor they were working in, that is, what class of customers they were calling on.

. . . . . .

Q. Referring back to this policy, as I understand it in 1950, a jobber in the industrial field for "3M" had to have a warehouse, an office, and at least one salesman besides the owner, and should pay his bills satisfactorily, is that correct? A. There were things over and be-
16 yond that.

Q. Can you tell me anything of significance? A. That's why I wondered if I had skipped it.

. . . . . .

17 Q. Are there any other factors in the selection of dealers or distributors or jobbers, as of 1950, other

than the ones you have just enumerated, which are of significance? A. The one I know of has been—on the books policy for a long time, that no jobber is to be put on our books as such to handle one consuming account only.

Q. One account. I see. Has the policy changed since 1950? A. In that respect?

Q. Yes. A. Not to my knowledge.

* * * * * * * *

53 Q. In 1952 had Minnesota's policy with regard to distributors changed in any way? A. No, sir.

Q. In 1953 had it changed in any way? A. No, sir.

Q. Is it the same today as it was in 1950? A. Yes, sir.

Q. I believe you told us previously that you have entered into agreements with certain distributors or jobbers to carry Minnesota tape exclusively; is that correct? A. Before answering that, I would like to know, if I may, Mr. Spille, just what is meant by the word "agreement".

Q. I suggest you ask your counsel. I dare not try to instruct you, Mr. Drew. A. I don't care to be instructed. I just don't want any danger of there being two different interpretations of the word "agreement".

Q. Suppose I ask you then if you have made any gentlemen's understandings or agreements with any jobbers or distributors to handle Minnesota tape exclusively? A. In this respect: That we have proposed certain things and they have or have not accepted them.

Q. What things have you proposed? A. We have proposed to certain distributors that we think are qualified that we furnish them with all the product knowledge
54 we have as salesmen; the facilities of our laboratory; the facilities of our customer engineering group, our

merchandising group, and our sales force, and to teach them as much as we can of what we know about the application of pressure-sensitive tapes; where the customers may be found or where they are likely to be found, according to application; to make them as good salesmen for our tapes as we think we ourselves are.

Q. These suggestions were made to jobbers and distributors in the industrial field to handle Minnesota pressure-sensitive tapes? A. That is right.

Q. When did you first make such proposals? A. Along in the middle of the summer of 1953.

Q. The middle of the summer of 1953? A. Yes, sir.

Q. Prior to that time, did Minnesota provide technical service and assistance to industrial jobbers and distributors handling Minnesota pressure-sensitive tapes? A. In a comparatively limited way.

Q. And now you propose to increase the amount of technical service available to such jobbers and distributors, is that correct? A. That is correct.

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55 Q. On March 26, 1954, in response to my question regarding the policy of Minnesota in selling pressure sensitive tape to jobbers and distributors in the industrial field, and whether or not you expected them to sell only Minnesota tape, you answered:

"That policy does not apply to all jobbers."

Do you now want to change your answer?

Mr. Hamilton: Will you show the witness the question, please?

Mr. Spille: Certainly. I suggest that you read it from the beginning.

Q. Your answer was "That policy does not apply to all jobbers", and I now ask you, Mr. Drew, do you want to change that answer? A. I would like to say—

Q. Please give a yes or no answer on that one. Does that answer stand or do you want to modify it or change it in any way—yes or no—and then we will talk over what you want to change. A. You want a yes or no answer to what question?

Q. Do you now want to change that answer—yes or no? A. I would like to change my answer because I think—in fact, I know I did not understand your question when it was first asked.

Q. What do you answer in regard to that question?

A. We do not have a policy where we refuse to sell a distributor or a jobber because he is handling competitive tapes.

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66 Q. At the time you entered into these gentlemen's understandings, were you authorized to make such understandings on behalf of Minnesota? A. May I ask a question before I answer that? What is this understanding that we made?

(Discussion off the record)

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Testimony of **Ernest R. Hanson**, called as a witness by Technical.

(Record pages 3108 et seq.)

Direct Examination

By Mr. Morris:

3108 Q. You are a chemist aren't you? A. Yes, sir.

Q. Are you presently employed by Foster D. Snell, Inc? A. I am.

Q. Give me your educational background, will you, please. A. I have the standard school education; graduated from Fargo College with a B.S. degree and from Northwestern University with a Doctor of Philosophy degree.

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Cross Examination

By Mr. Haight:

3118 Q. These different bottles contain various ingredients. Here is one that contains 10 grams thin latex crepe. Now do you know the source of that latex crepe? It is plantation rubber, isn't it? A. That is right; obtained from a supplier in New York.

Q. What? About 95, 98 percent of our rubber is plantation rubber? A. Not any more.

Q. Well, leaving out the synthetics. A. I would say so, yes.

3119 Q. Well, did you ever find any resin in natural rubber? A. Yes, sir.

Q. In the plantation rubber did you ever find more than a very small percentage? A. No, sir.

Q. And the resin that you found was a fatty acid, not a tackifying resin like a rosin, is that correct? A. Yes.

Testimony of **Paul Shalita**, called as an adverse witness by Minnesota.

(Record pages 1061 et seq.)

Direct Examination

By Mr. Haight:

1061 Q. What is your occupation, Mr. Shalita? A. I am a chemist.

1062 Q. Where are you employed? A. Technical Tape Corporation.

Q. What is your position with Technical Tape? A. I am Technical Director and Vice-President.

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Q. Now you are saying you were a chemist. Did you graduate in chemistry? A. I did not.

Q. Prior to your coming with Technical Tape you had experience working on pressure-sensitive cellophane tapes, did you not? A. I did.

Q. And with what company was that? A. Metaplast Tape Corporation.

Q. Is that the only one? A. No. Prior to that, and actually at the same location, there was the Cofax Corporation.

Q. During what period did you work with Cofax? A. Well, during the entire existence of the Cofax Corporation, which I believe was from 1942 to 1945 or early 1946.

Q. And then how long were you with Metaplast? A. Until July or August of 1947.

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1063 Q. What were you doing there? A. I was chief chemist of the Metaplast Tape Corporation.

Q. And what products were you working on? A. Pressure-sensitive tapes on various backings.

Q. And you had worked on those products at Cofax, is that correct? A. That's right.

The Court: And in what capacity were you employed at Cofax?

The Witness: As chief chemist.

The Court: And then from 1947 to date you have been with Technical Tape?

The Witness: That's correct.

Q. What in general are your duties with Technical Tape? A. Well, as technical director I assume the responsibility of being in charge of the laboratory on the development of its products and the improvement of its existing products.

The Court: Would you excuse me a minute, Mr. Haight? You were chief chemist with the Cofax Corporation
1064 from 1942 to 1945. Could you give me a little bit of your background before 1942?

The Witness: Before 1942 I had very — I was employed, I think, just for about two months before that. Actually

with Cofax Corporation was my first real employment. I was at school.

The Court: Well, what is your education?

The Witness: I have several years of college at CCNY, and I left due to illness and I was not able to return.

The Court: You were what class in CCNY?

The Witness: I started the class of 1939.

The Court: Did you take chemistry at City College?

The Witness: Yes, sir.

The Court: How many years college did you have?

The Witness: Two years days and about three years in the evenings.

The Court: All right, Mr. Haight.

Q. Did you go to Technical Tape seeking employment or did they seek you out? A. I think it was more of a mutual contact. It had met Mr. Cohen when he was with
1065 Hygrade Food Products and I was doing some consulting for him on cheese wrappers at that time, and I was leaving Metaplast Tape Corporation, and Mr. Cohen asked me whether I would want to join him or enter the employ of Technical Tape Corporation and I agreed and did.

Q. And did he in that discussion tell you some of the plans that he had for Technical Tape? A. Yes.

Q. And did you discuss with him the possibility of your contributing to those plans in view of your experience at Cofax Corporation? A. Yes.

Q. And you at that time knew you were going to come to work on pressure-sensitive tape problems? A. I did.

Q. By the way, back in your early days with the Colfax Corporation, you had read the Drew patent in suit, hadn't you? A. I had during some time of my employment with the Cofax Corporation read it.

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1067. The Court: And is it the fact that you had read the Drew Patent 2,177,627 within the three years prior to 1945?

The Witness: Oh, yes.

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1068 Q. And you had then (1945 or 1946) made up tapes following the disclosure of the Drew patent in suit? A. Yes, relating to Example E.

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1075 Q. Now Mr. Cohen identified three rolls of tape here as having an adhesive without any natural rubber in them; one of them was Exhibit G. Can you tell whether that adhesive has any natural rubber in it? A. It does not.

Q. He also testified I believe that Exhibit K had no natural rubber in it (handing). A. No. this one has natural rubber on it.

Q. And he also was wrong on Exhibit O, wasn't he (handing)? A. Yes.

Q. Now in making those determinations, you unwound a bit of the tape and smelled it, is that correct? A. Yes.

Q. You couldn't tell just by looking at the tape what the chemistry of the adhesive was, could you? A. By looking at it? No.

Q. Now we will go back to the first one I handed you there, that little one, which I believe is G. What are the

constituents of the adhesive used in that tape? A. Polyvinyl butyl ether.

Q. Well now, will you just tell us what that is,
1076 please. A. It is a polymer of a plastic — it is a plastic-like material; it is tacky and in its own self and in its degree of polymer or the structure that ultimately ends up in, it is tacky as a natural characteristic of the material itself.

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Q. Now, it is stretchy? A. Yes.

Q. It is rubbery? A. To an extent it is.

Q. And it is to some extent compressible, like rubber? A. Yes.

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1077 Q. When you buy it in the solid form, what do you mix with it to form the adhesive? A. A lower molecular weight or a soft material chemically composed the same as the polyvinyl butyl ether. It is a lower molecular weight polyvinyl butyl ether.

Q. By the way, rubber, it is an organic polymer, isn't it? A. Yes.

Q. And rubber is a high molecular weight organic polymer? A. Yes.

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1078 Q. What you have termed synthetic rubber, what was that? Buna-S? A. Yes.

Q. That also is a high molecular weight polymer, isn't it? A. Yes.

Q. When you make an adhesive, then, for your transparent pressure-sensitive cellophane tape, if you are using

natural rubber you mix the natural rubber with a lower molecular weight resin or rosin, don't you? A. Well, the material you could mix with it can be lower molecular weight and it can be a rosin.

Q. And you have mixed lower molecular weight resin with natural rubber, haven't you? A. Yes.

Q. To produce an adhesive on a tape sold by Tech Tape? A. Yes.

Q. And that is the way in which you make the pressure-sensitive adhesive when you have natural rubber, is to mix the high molecular weight rubber with a lower mole-
1079 cular weight resin; that is correct, isn't it? A. Well, it is one way of doing it.

Q. And the way in which you described doing it is to use a high molecular weight natural rubber and some high molecular weight synthetic rubber and then add, and mix with that, a lower molecular weight resin? A. That is one way of doing that one.

Q. And you have done it that way? A. Yes.

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Q. Now, then, on that particular one I will withdraw that from the question and say that in the instances
1080 in which you mix your polymers yourself to produce a synthetic adhesive you take a high molecular weight and a low molecular weight and mix the two to get the proper balance of cohesion and adhesion? A. You will end up with, if properly compounded, a proper balance of cohesion and adhesion.

Q. And you have done that? A. Yes.

Q. And then sold the product? A. Yes.

Q. Now you can also buy the synthetic polymer, the polyvinyl ether, instead of in this rubbery form you can buy it in a liquid, can't you? A. Yes.

Q. Where it is mixed with something, diluted down? A. Yes.

Q. You have the same material except that it is diluted in the liquid form, is that correct? A. Well, it is not diluted; it is dissolved.

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A. I don't think so, I think it is considered a solvent.

Q. All right. Now which way do you buy it when
1081 you make your synthetic adhesive tape? A. Most of the time, in solution.

The Court: Is it dissolved or is it suspended?

The Witness: No, it is a true solution, it is a clear viscous liquid.

Q. Now when you mix that high molecular weight material — by the way, what is it dissolved in? A. Toluene.

Q. Now, when you mix that with a low molecular weight polyvinyl ether, in what form is that low molecular weight? A. 100 percent solids.

Q. And in what form is it? A. A very viscous liquid.

Q. Molasses-like? A. Cold molasses.

1082 Q. Much like the consistency of the cumarone-indene resin, Defendant's Exhibit BB? This is as to consistency. This is a molasses-in-January in this bottle, I believe. A. The consistency approximately like that.

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Redirect Examination

By Mr. Haight:

1112 Q. Well, do you agree with this — and I will read from United States Patent No. 2,549,921:

"Polymerization of vinyl alkyl ethers with aluminum hexa-hydrosulfate,"

the Mosley patent assigned and issued to Union Carbide & Carbon Corporation as assignee on April 24, 1951, and I read from column 1, page 1, line 1:

"This invention relates to the polymerization of vinyl alkyl ethers" —

we will pause there. That is a polyvinyl ether, isn't it?

1113 Vinyl alkyl ethers? A. Yes.

Q. And that is what we are talking about here? A. Yes.

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Q. I will start reading again. Page 1, column 1, line 1:

"This invention relates to the polymerization of vinyl alkyl ethers to form tough rubbery polymers of high molecular weight."

Now when you polymerize vinyl alkyl ethers or polyvinyl ethers you can form and do form tough rubbery polymers, don't you, of high molecular weight?

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1114 A. After reading the patent, you do form a tough rubbery polymer as defined by the patent, and I think that is found on page 1, column 2, line 41. The sentence is as follows:

"The isolated polymers are tough rubbery materials having considerable elastic extensibility on stretching."

Therefore it is rubbery when the patentee describes it as being tough and elastic.

By the Court:

Q. Well, is that the characteristic of polyvinyl ether that is used by Technical Tape? A. Yes.

Q. So that it is correct to say that polyvinyl ether
1114a does have a rubbery base? A. As the limit of the rubbery base is to the stretching of it.

Q. For whatever other purpose, it does have rubbery base, rubbery characteristics to that extent? A. To that extent only, yes, your Honor.

1115 Q. To what extent doesn't it have a rubbery base? A. Well, the rubber, for instance, on stretching, generally comes a hundred percent, springs all the way back. Most of the —

Q. How does the elasticity or springing back have any bearing upon the quality of a product for use as an adhesive? A. Well —

Q. Does it have any? A. Yes, it does. I am trying to think of a simple method of giving it to you. As one example, a material such as a vinyl ether has a considerable amount of tack in it. So that it, itself, is an adhesive, a complete pressure-sentitive adhesive of itself.

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1119 Q. Let us take in the range of combinations of EXBM and EXBC that you have used commercially, and in order to get our meaning clear would it be fair to characterize the EXBM as the base and the EXBC as the tackifier? A. I couldn't give that as the definite means as describing the two products.

1120 Q. Why did you put the EXBC in? A. To plasticize and soften the adhesive.

Q But not to add to its adhesive strength? A. Yes, it does add to its adhesive strength.

Q. And that can be illustrated if we were, instead of using 30 parts of EXBC to 100 parts of EXBM, we were to use 100 parts of each, we would get a somewhat stickier mass such as I now show you, wouldn't we? A. You could get it.

Q. Well, wouldn't you? A. Well, assuming that is a mixture of equal parts of EXBM and EXBC, the chances are you would get something similar to it.

Q. You would expect to, wouldn't you? A. Yes.

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1121 Q. Now, Mr. Shalita, I show you some rolls of tape in sets of three; one having been marked for identification as Defendant's Exhibit DDDD, one group has been marked as Defendant's Exhibit EEEE, and I will ask you if those are products of Technical Tape? A. They are.

Q. I will also ask you if they are not sold in substantially identical dispensers, each set of three? A. Yes.

Q. And they are packaged in boxes that are identical? A. Yes.

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1124 Q. Now I will ask you if it is not the fact — unless I got these mixed up — that the three rolls, Defendant's Exhibit DDDD for identification, have natural rubber in the adhesive and the three rolls in Defendant's Exhibit

EEEE for identification have all polyvinyl ether? A. Yes.

Q. And just by looking at those in their use they are all just alike, aren't they? A. No.

Q. Well, don't they look alike to the purchaser? A. To the purchaser, but you asked me the question.

Q. Well, you can tell the difference? A. By looking at it I can.

Q. And by smelling? A. And by smelling.

The Court: Well, is it only somebody with your background and extensive training in chemical engineering and in the manufacture of adhesives who would be able to recognize it?

The Witness: I think that is correct.

The Court: Mr. Cohen could not?

The Witness: Not as readily as I can.

1125 The Court: So it is fair to say that except to the highly specialized trained eye of a chief chemist there can be no distinction?

The Witness: That is correct.

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Q. You have some chemists working under you at Technical Tape? A. I do.

Q. And one of them is a man by the name of Beyer? A. He does not work under me directly.

Q. Well, is he under your supervision as technical 1126 director? A. Partly yes.

Q. And he has a master's degree in chemistry? A. I don't know.

Q. You do know that he had some years experience at Minnesota Mining, don't you? A. Yes.

Q. And before he left Minnesota Mining and came with Technical Tape you talked with him didn't you? A. Yes.

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1133 Q. And assuming that that is EXBM and assuming that Defendant's Exhibit HHHH is EXBC, if I add EXBC to the EXBM I increase the tack, don't I? A. It depends upon what percent you combine the two definitely. It is limited to that.

Q. Well, let us say I add about 30 percent. A. 30 percent?

Q. Yes. A. It possibly will increase the tack, Yes.

Q. Let us say that I add equal parts. A. It will increase it still more.

Plaintiff's witness, **Paul Shalita.**

(Record pages 3015 et seq.)

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3015 The Court: Just, Mr. Witness, since you are here principally because all of this testimony is to be of some aid to the Court —

The Witness: Yes.

The Court: —point out to me in the Hodgson patent where he talks about transparent adhesive.

3016 The Witness: That is the exception I was going to answer. It may or may not be transparent, the rubber and coal tar pitch.

The Court: He does not talk anywhere about it being transparent.

The Witness: He does not use the word "transparent", no.

The Court: He doees not described or ascribe that quality to the adhesive to be used?

The Witness: No.

The Court: And he was not looking for a transparent adhesive in his product?

The Witness: That is correct.

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Direct Examination

By Mr. Spille:

3189 Q. Does the plaintiff in this case manufacture and sell insulating tapes? A. Yes.

3190 Q. All right, sir. A. There are many types with many end uses. They may be used for a temporary holding operation on wires, for instance, before they are further processed, and they are of the type where a light tack may be used.

Then there are places where such tape itself is to be used as permanently bonding material, and you may have a more aggressive tackiness where it holds on tenaciously.

Then you have forms where you have no tack, and where you just wrap around another wire, or where another protective coating of the same may be put on.

So that an insulating tape can be of a non-adhesive nature and can be of a mildly pressure-sensitive adhesive

nature, or of a high tacky adhesive nature, depending upon the actual use of it, and they are wide and almost tailor-made for each specific application.

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3199 The Court: Mr. Shalita, could you use a para-cumarone resin where you would not obtain these undesirable results with relation to offsetting of the adhesibe on the other side of the backing?

The Witness: I hesitated for a moment for one reason, your Honor. It is not only a question of the cumarone resin but also the treatment that is given the rubber in that example.

There is a double breakdown latex crepe which tends to soften it and make the rubber more tacky and have less cohesive strength, so you have to couple the treatment of the rubber with the resin, and if the two are balanced properly, a non-offsetting adhesive can be made, but it has taken a considerable amount of work to try and achieve that.

And this is based on my own personal experience in the last few months, to get that balance where you do have a non-offsetting adhesive.

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Cross Examination

By Mr. Haight:

3204 Q. There would not be the slightest necessity of Hodgson having any flexible transparent sheet, would there?

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A. He mentions celluloid or pyroxylin, which is the same material as a sheet. He also states that the entire assembly

of his dental film mount should be thin, and thin sheets of cellulose nitrate, which is pyroxylin, are flexible.

Q. There is no necessity for flexibility, is there? A. He is specifying the material that he uses in the window, and if the material is thin it is flexible.

The Court: The question is, Mr. Shalita, not whether it is in fact flexible, but whether there is any need for flexibility. Is that your question, Mr. Haight?

Mr. Haight: That is my point.

The Witness: Hodgson does not specify not having flexibility as such, but he gives you the construction of
3205 the materials, and it becomes a flexible film.

Mr. Haight: I move to strike the last part. My question only was as to the necessity.

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Q. And there is no necessity for flexibility at all, is there? A. He does not mention here the necessity for flexibility in this patent.

Q. And as to the adhesive, he does not mention
3206 that that should be transparent, does he? A. No, he does not mention that the adhesive has to be transparent.

Q. And there would be no point in the adhesive being transparent, would there? A. Well, since he does not mention it I can't say whether it should or should not be transparent.

Q. Well, now, let us look at this little exhibit 218. The adhesive is in a portion that is masked off by the back anyway, isn't it? A. Yes.

Q. So you could not see through the portion where the adhesive contacted whether the adhesive is transparent or not, could you? A. No.

Q. Now you will recall next as to the adhesive, Hodgson does not say whether it is non-offsetting or not, does he? A. He mentions that the film, that is, the x-ray negative can be removed without injury to the x-ray negative itself, and if the adhesive transferred or offset there would be some effect on the negative.

Q. What would the effect be? A. There would be a marring of the surface by the having of a residue
3207 of adhesive on the negative.

Q. Well, couldn't you just take your finger and wipe that off? A. Possibly, although I don't know. I don't know what the nature of that adhesive is other than the fact that it can be made from a rubber-coal tar pitch combination, or else with an adhesive similar to the ones used on surgeon's tape.

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3211 Q. So that then it would be very possible to have an adhesive with sufficient tack to hold that little film in place without getting an adhesive of such aggressiveness that it would strip the emulsion off, wouldn't it? A. Yes, it would be possible to do that.

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3217 Q. Well, do you ordinarily, in your thinking, think of rubber as adhesive, just plain rubber? A. That is one of the best.

Q. Without anything with it? A. That is correct.

Q. In what form? A. As an adhesive rubber and that is

the wide sense of using rubber in that, though we will assume plantation rubber —

The Court: Answer the question. In what form do you conceive it as the best adhesive? Rubber in what form? That is the question.

The Witness: In many forms, your Honor, depending — I have to just limit it to the product, because we say rubber, we can't just say a piece of pale crepe alone. You have to count what has been done to it, whether it has been milled, what it has been dissolved in, how that is treated —

The Court: You made the statement that in your opinion rubber was the best adhesive. In what form is rubber
3218 the best adhesive, is the question that Mr. Haight asked of you. Best can only be one, and when you said it is the best you had something in mind. In what form of rubber is it the best adhesive?

The Witness: I don't have in mind in that respect as rubber; again I have to say as it comes, let us say, thin latex crepe. When I use the word rubber as being the best adhesive, I mean it is the basis — of using the base of natural rubber in some form, it becomes a very good adhesive, and I — the overall picture, it is one of the best; it goes into more types of adhesives than most other materials. I am using rubber in the broad sense, not just limiting it to a specific type of rubber.

Q. Do you mean rubber and some other ingredients, then? A. Rubber and some treatment of the rubber.

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3219 Q. Now I have here a roll of "Scotch" Cellophane Tape; I can leave that when I go away for two weeks for the holidays, and I get back, and in this little exposed

portion, exposed to the air, that is still tacky and adhesive, isn't it? A. I don't know that.

Q. Do you mean that with the commercial tapes made by both parties in this case that if a person leaves this in a dispenser for two weeks with a portion exposed, that portion will no longer be adhesive after two weeks? A. Definitely, depending upon where it is kept and how it is kept.

Q. Well. let us leave it on an office desk in the average office. A. It may or may not, depending on the dust, where sunlight hits it, or the like. You cannot make a broad statement that it will be good or whether it won't
3220 be good; you have to know the conditions under which it is kept.

Q. Let us first postulate that it is kept in an office, make it your office. A. That would be a very bad example; there is a considerable amount of dust in my office.

Q. Make it right in this courtroom. Is it your position that I couldn't leave this roll of tape here for two weeks, sitting right there on the bench right by you there, and have that adhesive when I come back in two weeks? A. You may not be able to. I cannot say whether it will or will not.

Q. I will now show you Defendant's Exhibit R, which was received in evidence on November 21, 1954. So far as I know, that hasn't been moved so far as the tape is concerned from that date to this. Do you expect that when that has been just kicking around in a box of exhibits and then finally, within the last day, put in orderly fashion in a file, do you think that the adhesive is destroyed in the little length between the roll and the point where it is cut? A. I have no way of knowing; I wouldn't hazard a guess, because that is all it would be.

3221 Q. But you think maybe there will be no adhesive there? A. No adhesive or else it may be (have) less tack than it had before; it is going to depend on how hard you are going to press it, can be pressed into service, whether you reactivate the adhesive surface or not.

Q. As a matter of fact, pressing just with my thumb I would be able to delaminate the printing on that patent in front of you, wouldn't I? A. Possibly you could.

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3224 Q. Well, just plain latex in the solvent, is that an adhesive when all of the solvent is driven off? A. The thin films when coated on a material such as cellophane, cellulose acetate or the like, it is an adhesive.

Q. But not the slightest solvent in it? A. Without any solvent in it.

Q. And when it is thoroughly dried? A. When it is thoroughly dried.

Q. Yesterday you were asked—

The Court: So that latex before it has been put in a solvent is an adhesive?

The Witness: In thin films it is, your Honor, yes.
3224a We can't take a block of rubber and say that this is an adhesive, because it has been handled, dust and the like, and we take it and dissolve it in the solvent and then—

3225 The Court: No. Not dissolving the thing, but take that piece of latex and shave off every part that has ever been exposed to any dust or light or sun, any deteriorating material or exposure, would that, in its then condition, be an adhesive?

The Witness: Yes, it would, your Honor.

Q. And a pressure-sensitive adhesive? A. Yes, it would be mildly pressure-sensitive.

Q. And that is what you have meant by testimony here when you have used the phrase "mildly pressure-sensitive"? A. I have used it for that and I have used it for rubber, straight rubber solution, which was made of a milled rubber.

The Court: When you say that that latex in its original condition is adhesive, do you mean it can be used commercially as an adhesive?

The Witness: Yes. Your Honor, if I may—

The Court: It can or it can't?

The Witness: Yes, it can.

The Court: In its then condition and without dissoloving it, in its condition as I described it, without doing more to it at all, it is an adhesive?

3226 Why do you hesitate to answer? That was the question I meant to put to you before but apparently I didn't convey that to you.

The Winess: I thought you said the rubber as it originally comes.

The Court: From the tree?

The Witness: Yes. And then it is different. That is latex. You mentioned latex. Latex crepe we have been talking about.

The Court: Yes. The latex crepe, after you shave off every surface that has been exposed so that you don't have any deteriorating effects insofar as adhesiveness is con-

cerned because of dust or sun or anything like that; what would you have left? Would that be an adhesive?

The Witness: Your Honor, you probably define as the base for forming an adhesive as—

The Court: It isn't an adhesive.

The Witness: No, not in the lump form. I can't picture it as being an adhesive in a lump form.

The Court: Not in the lump form, but shave it down to .010 of an inch, would be an adhesive?

The Witness: Yes, where it is thin and where you have the characteristics that rubber has, and where it
3227 would be flexible at that point, it was thin, and you have shaved off the areas so that there is no dust and dirt, it has tack characteristics at that point and in—

The Court: .010 of an inch, it would be an adhesive?

The Witness: Yes.

The Court: Commercial adhesive?

The Witness: For certain applications it would be, yes, if you could supply it in the film of that thickness of .010 of an inch, you would save the difficulty of coating it with a solution. You have the adhesive already in a form which would be a sheet of rubber of .010 of an inch thick. At that stage it would be an adhesive.

The Court: And that is the adhesive?

The Witness: Yes, that is basically the adhesive.

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3229 Q. Now Mantell specified a different purpose for using Holland cloth, didn't he? A. He specified it as a protection for the adhesive.

Q. In the same way and for the same purpose that you use it in a regular electrical rubber tape? A. No. I think in the rubber tape I mentioned I was just describing
3230 what Holland cloth was and the fact that it was used as a barrier or separator for materials that are either highly adhesive or highly cohesive. That is what I tried to explain yesterday. I was just giving a background of Holland cloth and one of its uses.

Q. And what is the use that Mantell mentions for it? A. As a protection for his adhesive which is coated on—cellophane is one of the examples of the backing.

Q. What does he want to protect it from? A. Drying out.

Q. Why does he want to protect his adhesive from drying out? A. Because otherwise he would defeat the purpose of having it adhere to a photograph for retouching and using material. His shading —

Q. Why would that defeat the purpose? A. It would not adhere to the photograph that he wants to retouch.

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3231 Q. In the Drew patent in suit, instead of providing a liner so as to preserve the solvent, Drew gives specific directions to drive off the solvent, doesn't he?

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A. Drew is referring to a tape and he gives the method of driving off the solvent. However, since his is a continuous operation, there is no need for a liner to be put in or a material to prevent the adhesive from drying out. It is rolled up on its own backing, and that protects it from drying out.

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The Court: Well, does Drew give instructions for drying out the solvent?

The Witness: Yes. In my answer I stated that, your Honor.

The Court: He does?

The Witness: Yes, sir.

3232 Q. And he mentions the complete removal of solvent, doesn't he? I refer you to page 5, column 2, and it is down toward the end of that paragraph, somewhere around about line 55. A. He is talking about the primer in driving out the solvent completely at that point.

Q. Oh, he is? Well, then, let us back up a little bit. Let us back up to line 43, and we will put on the primer and we will get down to the adhesive, and I think we dry it.

"A uniform layer of primer is applied at this point to the film or web of backing material. The web thus prepared travels from the squeeze rolls, to a duct for removing and drying off the solvents in the primer."

Now we have got the solvent out of the primer. A. Right.

Q. And I am going to continue:

"The web then is directed to a contrivance for coating, at which point a doctor knife or coating knife is used to spread a film of the composition of adhesive material. The composition is directly applied over the primer and the composite as coated is either hung in festoons or
3233 travels through a drying duct, at which point sufficient time is allowed for complete removal of the solvent . . ."

That is complete removal of the solvent and the adhesive, isn't it? A. That's correct.

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3242 Q. Well, let us take it step by step then. Relatively speaking, parchmentized paper has a rough surface, doesn't it? A. Relative to cellophane.

Q. And when you look at it under the microscope, as you say you have done, you see undulations and little hills and irregular hills, don't you? A. Yes; I think I have so testified.

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3244 Q. Have you ever looked at cellophane under a microscope? A. Yes.

Q. That is just a clear glass, isn't it? A. It is clear cellophane.

Q. But it looks just like clear glass, smooth, plain surface? A. Yes, it has a smooth surface.

Q. As compared with what under a microscope looks like a very rough surface of parchment? A. Under a microscope parchment paper looks rough because of the nature of the material.

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3245 Q. In your cellophane you agree there that you
3246 have the same surface and the same problems on both sides, both the side the adhesive is on and the back side which it will contact with, wound in a roll; correct? A. Yes.

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3247 Q. I show you Plaintiff's Exhibit 1 and ask you what is that? A. It is "Tuck" masking tape.

Q. Now I have stripped off a piece of that and I will ask you to look at it in the light and see if you don't see a sheen on the spots where that has contacted the high spots on the back. A. Mr. Haight, I think the sheen is due to the portion of adhesive that is not in contact with the backing, and as I was describing before, you have a certain amount of plastic flow to the adhesive and if you were to

take an adhesive of this nature and just hang it up and let it stand for a period of time, the entire surface will become glossy. The dullness is the portion that is in contact with the underlying layer, the gloss is the portion that is not in contact with the underlying layer.

Q. That is the gloss is the depressions in this? A. Yes. (To Court) They are faint.

3248 Q. The little glossy spots were not in contact but the dull spots were; is that it? A. That is correct.

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3266 Q. Now the Austrian Kronstein patent, Exhibit 158-T, do you have a copy of that in front of you? A. 158-T, yes, I have a copy of that in front of me.

Q. Now do you notice that in the first paragraph of that patent it states what had been used as insulating materials, electrical insulating materials? A. It lists some of them.

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3267 Q. Now I ask you, you are familiar with an electrical insulating material that has got a dry solid layer on the outside, aren't you? A. Yes; there are many insulating materials that have that.

Q. And an example of that is varnished cambric that you mentioned this morning, isn't it? A. Yes.

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3268 Q. Have you ever seen them make varnished cambric? A. Yes.

Q. And would you describe, briefly, how it is made? A. One form that I saw made was where the cloth would go through successive baths of a varnish into a drying tow-

er, the solvent would be evaporated and the varnish cured. This can be done in one or many passes through a
3269 bath, depending on the amount of varnish that is desired to be coated on the cloth itself.

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Q. Now we will continue with the Kronstein patent. Do you believe, by the way, that that is what he is referring to in the first paragraph, something of that order? A. Only partly, because he is also referring to a rubber-treated cloth.

3270 Q. The rubber-treated cloth that he is speaking of will have a dry surface, won't it? A. In that paragraph I think he limits to a—well, his last five words of that paragraph "dry solid layer this way."

Q. So that the rubber would not be an adhesive in that instance? A. In that particular instance, I don't think so.

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Q. The next paragraph, which is two short sentences. A. It relates to the varnish and the under base material.

Q. To produce a product such as Defendant's Exhibit C-5 for identification? A. To possibly produce something that would have the appearance of that exhibit.

Q. And the feel of it? A. That I don't know.

Q. Well, in any event, it would not be adhesive, would it?

3271 A. If it were limited to the paragraph above, it is not adhesive.

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3274 The Court: Do you think that that is what Mr. Kronstein is attempting to indicate in his first full

paragraph on page 2, that he is attempting to indicate to you some new types of insulating substances that he did not have in mind in the first paragraph on page 1?

The Witness: I think he is introducing some additional ones.

The Court: That he did not have in mind on page 1, as you read the first paragraph of page 1?

The Witness: It is possible that he is including this larger list of materials on page 2 to cover the additional ones that were known that he had mentioned on page 1.

The Court: By general terms?

The Witness: By general terms.

3275 The Court: And that therefore he is not introducing anything new, necessarily, is he, insofar as insulating substances are concerned?

The Witness: Well, it is possible he is not introducing anything new.

The Court: Insofar as insulating substances are concerned.

The Witness: As the insulating substance itself is concerned, yes.

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Q. I will continue reading:

3276 "The lack of susceptibility of the combined product against high temperatures creates the possibility to perform the unification of the cellulose material with the varnish even under higher temperatures without impairing the flexibility or power of resistance of the final product."

Now that does that mean to you? A. I think all he

means there is that he can run the tower at a higher temperature in coating the insulating material on the cellophane.

Q. All right. Now did you notice in the next paragraph that the product, according to the processing method of the invention, is furthermore absolutely oilproof? A. He mentions that it is absolutely oilproof on page 3.

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3277 Q. All right. So if we then have one of his materials that he talked about in the first two pages of the patent in which he had a rubber coating on his cellophane, what kind of rubber would that be and what kind of treatment would it have to have, necessarily to be oilproof? A. I don't think rubber itself ever becomes oilproof.

Q. Well, if you were going to coat, as Kronstein says he does, some cellophane with a rubber solution, and then run it into the tower and heat it up and finally produce a product, and you were going to try to get as close to oilproofness as you could on your rubber coating, what would you do to the rubber?

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3278 A. I would have to compound them in some form to make it as oilproof as possible.

Q. What forms do you know? A. I personally know?

Q. Yes. A. I would try and add oilproof plasticizers to it and possibly vulcanize it.

Q. You would certainly think of vulcanizing, wouldn't you? A. Yes.

Q. Now without going further into the patent, at that point the rubber that, let us say, is vulcanized on this Kron-

stein article with the cellophane core, that would not be an adhesive, would it, not yet? A. As such, no. But it is only one of many things disclosed.

3279 Q. Now, then, when we get down to the last paragraph on page 3, we then, for the first time, get anything, even a suggestion, of adhesive; isn't that correct? A. That is the first mention of it in this patent.

Q. Now did you see anything in the Kronstein patent saying anything about the use of a liner? A. No, I don't see any mention of a liner.

Q. By the way, on oilproofness, linoxyn or an oxidized linseed oil varnish, that is oilproof, isn't it? A. Yes.

Q. Is zapon varnish or lacquer oilproof? A. Generally speaking, nitrocellulose materials are oilproof.

Q. And cellulose acetate is oilproof? A. Generally speaking that is oilproof.

Q. And glue is, too, isn't it? A. Glue is, yes.

. . . . . .

3281 Q. Now I would like to ask you first about Brandenberger, and I want to take it sentence by sentence. I want the first sentence to which you refer to find an adhesive in Brandenberger. A. In the second paragraph where it says that the cellulose sheets can be coated with one or several layers of linseed oil, with a rubber solution. The rubber solution is the first adhesive mentioned. The second place where it says "with any insulating varnish." Insulating varnishes are adhesive. ". . . or with a mixture of these substances." And many mixtures of these substances are adhesive.

3282 Q. At that point he does not call them an adhesive, though, does he? A. No, but some of them are, just from the terminology of the materials as he uses it there.

Q. Now, linseed oil. Do you consider that an adhesive? A. Under certain conditions it may be an adhesive.

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3284 Q. Well, let us assume that what you want to do is to obtain a good insulating material that will be as impervious to electricity as we can get it, using only linseed oil now and cellophane. A. One form would be to coat the linseed oil on one side of the cellophane. It also can be dipped. However, when you are dipping it you get the linseed oil on both sides.

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3286 Q. And that is the product we get when we dip this cellophane in linseed oil and then pull it up on the tower, allowing it to immediately run down and oxidizing it, which will represent an article having a hard, smooth, electrical-resistant surface, won't it? A. It may have a smooth, electrical-resistant surface, but I don't know whether it will be hard.

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3287 Q. All right. Now let us take the insulating
3288 varnish. You could produce an article without that and which would be non-tacky too, couldn't you? A. With the insulating varnish alone you could produce either a tacky material or a non-tacky material.

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3293 Q. And the fact is you could use linseed oil alone with nothing else as an insulating varnish, could you? A. Linseed oil alone?

Q. Yes. A. I don't know. One of my references that I have looked up, oh, back approximately in 1900, tells of some disasters that can occur when using linseed oil alone.

Q. Well, does that mean that you can't use it? A. No, but this refers to the linseed oil when using it alone.

3294 Q. And Brandenberger says you may use it alone, isn't that correct? A. Depending upon the properties that you want to get you can use it alone.

Q. Now, Mr. Shalita, I will produce a roll from which strip marked Defendant's Exhibit C-5 for identification was taken, and I will take off the outside strip. I have now unwound at least one complete wind, and I will ask you to tear off the part I have unwound and we will discard that. A. All right.

Q. Now, will you take off a strip for yourself so that you are the only person to have handled it.

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3295 Q. Now, do you have this strip before you now? A. Yes.

Q. Now tear that off. (Witness does as requested.)

Q. Now peel that surface off. (Witness does as requested.)

Q. Do you find any tack? A. Very slight.

Q. All right. Will you produce your glass plate, please. A. I have the glass plpate.

Q. All right. And now I want you to press this strip of cambric just any way you want, and see if it will lift the glass plate. A. No, it will not.

3296 Q. There is not the slightest semblance of adhesion, is there? A. Not in this case, no.

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Q. Now, Mr. Shalita, are we in agreement that you could produce an electrical insulating material using cellophane instead of cambric, and using either linseed oil or a rubber solution, or an insulating varnish, and ending up with an article having a perfectly smooth and non-tacky surface that won't lift the glass plate which you brought to court? A. There are enough materials, and taking these materials, certain portions or combinations and the like, you can make a product, similar to this one.

Q. Now, you say there are a number of products? A. Yes.

Q. How many are embraced in the term linseed oil? A. One.

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3297 Q. Now, how many different rubber solutions are there? A. Depending on the rubber and its source. There are many different solutions of rubber.

Q. Well, dozens or hundreds? A. I don't think I would take it up as high as hundreds and possibly dozens either.

Q. All right. A. Let us take it down to about one dozen.

Q. Now, how many insulating varnishes were there back in Brandenberger's time? A. There were several.

3298 Q. Well, a dozen, two dozen? A. I don't know. There were several. I don't know how many.

Q. All right. A. And they were tailored for each specific application.

Q. Now, the next patent says, "or with a mixture of the substances." A. Yes.

Q. And to produce a coated cellophane that would be smooth and untacky such as on Exhibit C-5, is that correct? A. The possibility is there.

Q. Oh, you are not sure of that one? A. I haven't done it.

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3299 Q. Isn't this representative varnished cambric of the types you have seen? A. One form of the types of varnish, or it appears to be one type or form of the varnishes I have seen.

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3300 The Court: Well, as I understand it, the witness practically said he does not know. As a matter of fact, you don't know much about varnishes at all, do you?

The Witness: I know a bit about varnishes.

The Court: All you have done is a little bit of reading in preparation for this case?

The Witness: No, I have also done some work on varnishes, not only in preparation for this case, but I have done work on varnishes over the years.

The Court: Would you dignify yourself as being a varnish expert?

The Witness: A varnish expert?

The Court: Yes.

The Witness: No.

The Court: I have been construing a lot of your answers here as not knowing because you do not have enough experience.

The Witness: I wish you would point out where, your Honor, because I would like to know.

The Court: I could tell you if I were to examine the record, but time and again your answers indicated to me that you just did not know.

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3301 Q. Then the next paragraph:

> "In order to reach the closure of the pores we can also bond together two or more sheets of cellulose; since the location of the pores will not coincide in the various sheets, we obtain an absolutely homogeneous surface."

And turning to page 2:

> "The sheets can be bonded by means of any adhesive substance."

I pause there and ask you: That is the first use of the word "adhesive" in the patent, isn't it? A. The first place where the word "adhesive" is so spelled out is at that point.

Q. The patent continues:

> "but, in order to increase their electrical resistance, they can be coated first with linseed oil, a solution of rubber or any insulating varnish. These coatings or varnishes can themselves serve as adhesives."

Now, pausing there, is there any disclosure of "adhesives" beyond that point in the patent? A. Without using
3302 the word—well, the word "adhesive" does not appear in the next paragraph. I have not looked at the summary yet. The actual word does not appear after that. However, in the second paragraph of that page, the last sentence:

> "The sheets thus obtained can be used as such as an insulating material or they can be bonded to each other and coated like sheets of pure cellulose."

Now, looking back, he has coated what is the pure cellulose, as he describes on page 1, with one or several layers of linseed oil, with a rubber solution, with any insulating varnish or with a mixture of these substances.

Q. All right, then we will come back up to the paragraph at the top of page 2 and I ask you what does the patent attribute the capacity for being an adhesive to? Now, it names certain adhesives, and what are they? A. It says that the linseed oil, the solution of rubber, or the in-
3303 sulating varnish can themselves serve as adhesives.

Q. And that is all that the patent says, "can serve as adhesives," isn't it. A. No. I think he said that the sheets can be bonded by means of any adhesive substance.

Q. So, then, the patent says you can have either linseed oil, a solution of rubber, insulating varnish, or any adhesive? Is that your understanding? A. Of that paragraph.

Q. All right. Now is there any other place in the patent where the patentee gives the name adhesive to any substance? A. He does not write out the word adhesive, but he describes an adhesive when he says a rubber solution.

Q. Well, I thought you told me that that might or might not be an adhesive. A. Only if it is given certain treatment will it not be an adhesive. We were talking before of vulcanizing it.

Q. Well, then, if it is given another treatment it can be a solvent-activated adhesive? A. Yes, the same as pressure-sensitive tape can also be a solvent-activated adhesive by using a solvent and activating the adhesive sur-
3304 face.

Q. That is by using a solvent-activated adhesive instead of a normally tacky, pressure-sensitive one, is that

right? A. The pressure-sensitive adhesive can be used as a solvent-activated one.

Q. Now, that may be, but my question is can I have with a rubber solution—first I can so compound it that I don't end up with an adhesive at all, isn't that right? Do you agree with me on that? A. Yes, it can be so compounded.

Q. All right. Next I can so start and use rubber or rubber solution and end up with a solvent-activated adhesive? A. That is another form.

Q. All right. Next I can start out with a rubber solution and don't compound it with anything and end up with a normally tacky and pressure-sensitive adhesive? A. That is still another form.

The Court: In what form did Brandenberger disclose that rubber solution in this patent as you read it?

The Witness: I think his rubber solution was an adhesive because he mentions—

3305 The Court: No, in what form does he disclose it?

The Witness: What form?

The Court: Yes. You say there were three forms, and I am asking you in what form did Mr. Brandenberger disclose it in his patent.

The Witness: I believe he discloses the rubber solution in the patent as a solution of natural rubber in a solvent.

The Court: And a pressure-sensitive adhesive? Well, first, do you read the words "rubber solution" in his disclosure as an adhesive?

The Witness: Yes.

The Court: Do you read that as a disclosure of a pressure-sensitive adhesive?

The Witness: The rubber solution as defined—

The Court: No, as used in this patent, not in the abstract sense, but as disclosed by Mr. Brandenberger as you construe it.

The Witness: Yes, I do, because—

The Court: And as a pressure-sensitive adhesive?

The Witness: Because it is used for wrapping around wires and cables and has to hold, and I feel that he has given you enough material here to make many types of insulating tapes from this type, too, as pressure-sensi-
3306 tive.

The Court: You come to that conclusion because the words "rubber solution" are there?

The Witness: Plus the insulating varnish, plus the mixture of these materials, which gives many types. Also, this particular product, varnished cambric, is also sold with pressure-sensitive adhesive on it I know personally for at least—well, at least 10 or 12 years.

The Court: All right.

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3308 Q. Now you pressed the friction tape on the glass plate. You have rolled it about four or five times, haven't you? A. Yes.

Q. Rubbing with the heel of your hand. Now try and lift the plate. It didn't lift it, did it? A. No, it just had a slight grab on it.

Q. It just jiggled it as you tore it off; isn't that correct? A. Yes.

Q. Now what are you doing? A. I would like to try it with another piece.

3309 Q. All right. A. It is difficult to get good adhesion to the glass or attempt to get it because I have adhesive on both sides, and as I press it down it is tending to adhere to my hand as well as to the glass plate, and there is a force being exerted to strip it as I am trying to apply it.

Q. Why don't we get a little sheet of paper off this tape underneath and put it on the top of the tape so that you will have a tape that will add the weight of the paper to the experiment. A. I was just looking for an open one of these cellophanes.

Q. Now you have laid the strip of friction tape on the glass. You have now taken a little strip of cellophane which you are laying on top of the tape, is that right? A. That's correct.

Q. Now you are going to press down on the cellophane so that you don't pull the tape off as you rub on the back side; is that correct? A. Right.

Q. And you didn't lift the plate, did you? A. No, I just moved it slightly.

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3312 Q. Now next I want you to tell me each instance in which Brandenberger suggests that anything be attached with an adhesive to anything else.

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3313 A. He is reading the first paragraph:

"The invention relates to an insulating substance destined primarily for cables or wires".

I think that he is attaching his insulating material in some form to the cable or wires.

Q. So that to you is the first reference for attaching something to something else? A. That's right.

Q. Now what is the second? A. The second reference of an attaching or adhering one material to another is in the third paragraph. He states:

"In order to reach the closure of the pores we can also bond together two or more sheets. . ."

Therefore he is adhering together two or more sheets.

Q. All right. That is the third one? A. The third one is the top of page 2, where he states:

3314 "The sheets can be bonded by means of any adhesive substance . . ."

Q. All right. Is there any other?

The Court: Two and three are the same, aren't they?

The Witness: Yes; on the second and third instance, your Honor?

The Court: Yes.

The Witness: Yes. It is relating to the same lamination or bonding two or more sheets.

A. Yes, I think in the next paragraph he is talking about the sheets that he surface treats, and he mentions that they can also be bonded to each other to form this insulating material.

Q. And that is like two and three again? A. Not quite, because he mentions also here that these bonded sheets can now be treated as if they were sheets of pure cellulose, which he had not mentioned above.

Q. All right. Now what is the next instance of adhering one thing to another?

Mr. Morris: By means of an adhesion, you mean? That is the same question, is it, that you have been asking?

3315 Mr. Haight: Yes.

A. I think the summary under "1" starts off the

same as the first instance I have given, where he was using the insulating material for pieces, wires, or cables; therefore he is going to attach them, hold them in some form, to the pieces to act as the insulator.

Q. All right. Are there any others? A. Yes. He says these sheets of cellulose are being used either as single sheets or after bonding several sheets together.

Q. That is in the first paragraph of the summary? A. Yes.

Q. Now that is the sixth. Are there any more? A. I think the next instance, after he has bonded sheets together, they may have an exterior coating which would appear in the last paragraph before the summary. Therefore—this coating can be of linseed oil or rubber solution or any insulating varnish, so that after the—the bonded sheets now have a coating on which can make them adhesive.

Q. Are there any others? A. Well, I think all of those that were found under the summary would hold true for No. 2, except substituting a surface-treated cellophane.

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3316 The Court: Let me ask you a question. How many categories do these adhesives discussed in this patent fall into? I want to make sure that I understand your construction, and as I understand it there are two, perhaps, three, classifications. One is the bonding or the union between this insulating material, this insulating product that Brandenberger discloses, to the article which is to be insulated.

The Witness: Yes.

The Court: Now that is one general classification, and you mentioned that several times.

The Witness: Yes, sir.

The Court: And then the second adhesive is where, in order to increase the insulating effect of the cellophane which he proposes to use, he says, why, you might bond the paper, so instead of taking one sheet, take two sheets, and you can bond those together with an adhesive.

The Witness: Yes.

The Court: So that is the second bonding.

The Witness: Yes.

3317 The Court: And, then, you have mentioned that several times because it appeared several times in the patent.

The Witness: Yes.

The Court: Now perhaps there is also a third one, and that is where a coating of insulating material is bonded on the sheet of cellophane.

The Witness: Yes, and particularly after the sheet has been laminated to each other, you can put an exterior coating of a material on it which can make as the adhesive, so we have a laminate and an exterior insulating material.

The Court: Are you saying anything different than I said? Because I want to make sure I follow you.

The Witness: No, I think the only difference was that I said bonded, two sheets were bonded, because I think the third one would almost be a repetition of the first, because we were taking the single sheet generally as in the first one.

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3355 Q. Mr. Shalita, will you refer to the French Brandenberger patent No. 433,999, Exhibit 202-T. Yesterday afternoon you mentioned several different in-

stances — I believe it was seven instances — in that patent where you found a statement that one article was adhered to another, or one thing was adhered to another. Now the first one was in the first two lines of the body of the patent:

> "The invention relates to an insulating substance destined primarily for cables or wires."

Now what is the statement there about what is adhered to what? A. The insulating substance is adhered to the cable or wire.

3356 Q. Now, is it necessarily adhered with an adhesive? A. It is adhered in some form. It may be an adhesive.

Q. It might be an adhesive? A. Yes, it can be an adhesive.

Q. And it also could be without an adhesive? A. Another form could be without an adhesive.

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3357 The Witness: It (Brandenberger) discloses an insulating substance to be used for cables and wires.

The Court: Does it say anything about being held with an adhesive?

The Witness: Not in that sense, your Honor.

The Court: So the patent does not disclose that the insulating material is held to, or bonded, or in any way affixed or adhered to the material or product to be insulated by any adhesive?

The Witness: No, not in that sense, your Honor.

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3360 Q. And where does the patent state that you then bond the article you have just described to anything else with an adhesive? Now I don't want it by inference, I want the clear sentence. A. The clear sentence of bond-

ing the finished article to another material is not given in so many words. However, you have the construction there with the adhesive on it and the use of it is for insulating purposes. So you have a material which can bond to other surfaces.

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3362 Q. Now the only express statement in the patent, then, that one thing is to be secured to another by an adhesive, the patent refers to bonding two sheets of cellophane together; that is correct, isn't it? A. That is where he uses the word "bonding" and "adhesive".

Q. All right. Now in that instance does he suggest anywhere that that is a temporary bonding? A. He does not suggest that it is a temporary bonding.

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3369 Q. Did you try coating cellophane with the so-called spirit varnish that you used? A. Yes, I have coated cellophane with it.

Q. What happents when it dries? A. The cel-
3370 lophane would be coated with a dry resin which is a—well, a dry resin.

Q. Did you then try to flex the cellophane? A. Yes.

Q. And what happened to the so-called spirit varnish? A. Depending on the thickness of the varnish on the cellophane, it could, when deposited in thicknesses of approximately two-thousandths or more be broken off on the cellophane. And in thinner film it would hold on.

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3371 Q. I thought you just told me that rubber and resin in a solution was a spirit varnish. A. You asked me the ones I had tried.

Q. Yes. A. And you can mix two varnishes together

and still have a spirit varnish, and that would be the rubber and the resin that I had mixed together and coated the cellophane with.

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3375 Q. Now, the linseed oil, did you try coating with cellophane? A. Yes.

Q. And what happened? A. It deposited as an oil on the cellophane. It is a liquid on cellophane.

Q. And that was your conception of what Brandenberger had in mind, was it? A. That is as far as I went with it.

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3382 Q. In the demonstration here in court you didn't use, then, any of these three things that Brandenberger suggests might serve as an adhesive, did you? A. Yes. These materials here (indicating).

Q. I mean on the machine when you made the tape. A. No, I used a combination of materials, because here he is bonding two pieces together. I did not bond two ·· es of cellophane together on the machine; I did a coating.

Q. So you turned back to page 1, where it says "a coating" for an insulating coating and where it said "a mixture" and what you produced was a mixture. A.
3383 That's right.

Q. Now who determined what the proportions were going to be in that mixture? A. I determined them.

Q. Did you conduct research before you made that determination? A. I did a few other experiments before I made that combination.

Q. How many mixtures did you make before you selected that one? A. The ones that I selected for use here were just three of many mixtures that I had prepared.

Q. Now what do you mean by "many"? A. Twenty or thirty.

Q. By the way, did all twenty or thirty of them work? A. No, not all of them.

Q. What was wrong with those that didn't work? A. Some of them were too soft, too gooey, some of them had no tack.

Q. Those that were too soft and too gooey, did you get too much oil in them? A. Yes, in some there was too much oil.

Q. And is that the reason that when you made
3384 the final mixture that you selected you had merely a very small amount of linseed oil? A. No, it was partly due to the compatibility of the linseed oil with the rubber, as well as the fact that if I was coating the cellophane I could see no reason to make something which would be so sticky and gooey that it could not be unwound, that it could not serve any useful purpose.

Q. Now in any of these mixtures did you try oxidizing the linseed oil? A. No, I did not.

Q. Did you try to make a mixture which would secure a nice smooth non-tacky surface, like defendant's Exhibit C-5 for identification? A. No, I did not try to secure too many like that.

Q. What was it you were attempting to secure? A. A rubber insulating coating on cellophane which was adhesive.

Q. And pressure-sensitive, normally tacky, could be wound into rolls and unwound without delaminating or offsetting the adhesive? A. That was the end result.

Q. And that what you desired, is it? A. It was
3385 desired to make something using the materials disclosed in the Brandenberger patent which could be used for wrapping cables and wires.

Q. Now the rubber-resin ratio, who decided on that? A. I decided on the ratio.

Q. How many different ones did you try? A. Many; I can't give you the exact number.

Q. Dozens? A. Rubber-resin ratios, I don't think I tried dozens. I would say on the order of five or six.

Q. Why did you select the one you selected? A. It was just typical of the many that I had done.

Q. Within what range did you try rubber-resin ratio, what were the limits of it that you tried? A. For each ten parts—it is converted to 100 parts of rubber, 40 parts of the dry resin up to equal parts of rubber and resin.

Q. By the way, in this Brandenberger patent there is nothing on proportions, is there? A. No, there is nothing on proportions.

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3386 Q. Did you have an opportunity to compare the Austrian Kronstein patent with the United States Kronstein patent? A. Yes, I did.

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Q. Well, let me put it this way: What is there that is disclosed in the Austrian Kronstein patent, Exhibit 158-T, that is not disclosed in the United States Kronstein
3387 patent? A. I don't think there is any difference in that direction.

Q. That is the United States patent has some things not in the Austrian patent but the Austrian patent has nothing

that is not within the United States patent? A. The United States one has some things in it that are not in the Austrian patent.

Q. The Austrian patent has nothing but what is in the United States? A. It appears to have the same general idea in the Austrian one that is in the U. S. one.

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3391 Q. You have been able to make adhesive tape following the Drew patent, haven't you? A. Yes, I have been able to make adhesive tape following the Drew patent.

Q. And you have successfully made it? A. Yes.

Q. And you have successfully made at least one each of the formulas C, D and E, haven't you? A. Yes.

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3392 The Court: Will you please take that patent before you.

The Witness: Yes, sir.

The Court: And since it is relatively short tell me how many times the word "bond" or "bonded" appears in the patent.

The Witness: Yes, sir.

The Court: And how many times the word "adhesive" or "adhesives" appears.

The Witness: "Bond" or "bonded" appears four times. "Adhesive" once.

The Court: Look at page 2.

The Witness: "Adhesive" twice.

The Court: Now, isn't it a fact that in each of the four places where the word "bond" or "bonded" appears it relates to the bond or bonding of two sheets of cellophane together?

The Witness: Yes. Where that word appears it does relate to the bonding of two sheets together.

The Court: Two sheets of cellophane together?

The Witness: Yes.

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3397 The Court: Now, again, isn't it a fact that, first the word "adhesive" appears twice only in this?

The Witness: Yes, your Honor.

3398 The Court: And it appears twice and it is only in one paragraph that it appears twice?

The Witness: Yes.

The Court: All right. And that paragraph deals with what, Mr. Shalita?

The Witness: That paragraph deals with the bonding of two sheets, or two or more sheets of cellophane together with an adhesive substance.

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3404 The Court: This is cellophane for the purposes of insulation now?

The Witness: Yes.

The Court: That is the thing that is new to Brandenberger?

The Witness: But based on some of the materials that had previously been used. Cloth or paper material had been used about the time of Brandenberger, so I think when he speaks of the rubber solution there he has in mind

the fact that this is an adhesive material that when wrapped will hold. That is one phase of it.

The Court: He does not say that, does he? He says that this material if coated by that will close the pores so that you get a better insulant. That is what he does say, isn't it?

The Witness: But he is using a material that has certain properties to it.

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Redirect Examination

By Mr. Spille:

3429 Q. Now will you proceed with similar demonstrations on the glass plate with those other sheets coated with a rubber solution that you made last Monday? A. The second sheet is the one marked "Best Test". I have just removed a covering sheet of cellophane and again I note that there is no transfer of adhesive to this sheet.

Q. Please show it to the Court. A. Yes (handing to the Court).

Q. Now this cover sheet, is that exactly the same material as the backing of the cellophane sheet which has the coating of adhesive on it? A. Yes, it is identically the same, coming from the same roll itself, the same roll
3430 of cellophane itself. I will now take this sheet marked "Best Test" and apply the adhesive in contact with the glass.

Q. That is the adhesive-coated sheet, I take it. A. The adhesive-coated sheet in contact with the glass, and gently press down with the back of my hand on the back side of the cellophane. I will do that one again.

Mr. Haight: Let the record show that the witness tried and that time it didn't lift it at all.

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3440 Q. Mr. Shalita, I have in my hand a small glass jar bearing on the label "5 per cent unmilled smoked sheet in benzol". Can you identify this jar, please? A. Yes, I can identify it.

Q. What is it? A. It is a 5 per cent solution of unmilled smoked sheet, which is the most common form of natural rubber dissolved in benzol.

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Q. And is that a rubber solution then within the jar that you have in your hand? A. Yes, that is a rubber solution.

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Mr. Spille: I will interrupt and have it identified with a plaintiff's exhibit number.

3441 (Marked Plaintiff's Exhibit 244 for identification.)

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Q. Now please describe what you are doing to the Court. A. I am taking a brush and will brush on to the normal cellophane some of the rubber solution identified in Exhibit 244.

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I have coated a portion of the cellophane with the rubber solution.

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3442 Q. Will you put the sheet you have just coated with the rubber solution in Plaintiff's Exhibit 244 into the laboratory oven here in court, Mr. Shalita. A. I will.

Q. I am timing it and will leave it in there for a minute.

. . . . . .

3443 Q. Now, will you take the sheet you have just removed from the oven and which has been allowed to come to approximately room temperature here in court and apply it to that same glass plate you have used be-
3444 fore? A. Yes, I will.

Q. Do it lightly, sir. A. Yes.

Q. You are now rubbing it with the back of your hand as you have done before? A. I am.

Q. Will you continue your demonstration and describe it to the Court. Did it lift the plate? A. Very slightly.

Mr. Haight: Just jiggled it, didn't it?

The Witness: Just jiggled, and I think it is important to note that when you apply it in the 5 percent solution with a single brush operation you get a very thin coat, and I would like to leave this one here and take another sheet and put on two coats, because if we put on one heavy coat and put it in the oven we will blister it, which would be readily perceptible, your Honor.

3445 Q. All right, use two coats. Incidentally, Mr. Shalita, while you are doing that coating operation again, if there is any cellophane left in a pressure-sensitive adhesive coated on cellophane, does the residual or detectable amount of solvent increase its stickiness or decrease it? A. It usually decreases it.

Q. Mr. Morris is timing it at this time. Let us leave it in for two minutes this time, that is, in the laboratory oven. My reading of the laboratory thermometer of the temperature inside the oven indicates that it is just about a hundred

degrees Centigrade; correct, Mr. Shalita? A. That is correct.

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Q. Now again allow the sheet you have just removed from the oven to come to room temperature, please, Mr. Shalita, which will take how long? A. Oh, about
3446 half a minute. And we will apply this second coat to it.

Q. A second coat from Exhibit 244; is that correct? A. That is correct. I will now apply a second coat of the rubber solution from Exhibit 244.

Q. That is the second coat on top of the first coat, I take it? A. On top of the first coat. I will now put this in the oven to dry.

Q. That is the very same sheet; correct? A. The same sheet.

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Mr. Morris: How long are you going to leave that in?

The Witness: Two minutes, to make certain all the solvent is out.

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3347 Q. Now, you have removed the second sheet with the two coatings of rubber solution on it from the oven, Mr. Shalita; correct? A. That is correct.

Q. You are now, again, letting it come to the temperature in this courtroom; right? A. That is right.

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3348 Q. Will you please describe what you are doing, sir? A. I am applying the sheet marked No. 2, two coats, smoked sheet, with the adhesive side down. I

will place it in contact with the glass plate. I have wiped my hand over the back side of the cellophane, the
3349 uncoated side, applying the adhesive sheet to the glass plate.

. . . . . .

Q. All right, sir. Did it lift the glass plate at all? A. Yes, it did.

Q. Did the plate fall off thereafter? A. Yes.

Q. All right, sir.

Mr. Haight: Just a moment. It lifted it perhaps an inch.

The Court: Would you say that the grab was appreciably different when you had your two coats on than when you had the one coat on?

The Witness: I think it was a little more on the second coat than it was on the first.

The Court: But just a very little?

The Witness: Slightly.

. . . . . .

A. I would like to get the thickness gauge in, because to determine thickness we have a gauge that we have
3349a to use, and when you are applying a 5 per cent solution from a brush, what appears to be a good coating — I am looking at this, it looks almost like a substantial coating, and I think we will find the single coating is in the order of about a half a thousandth, and for most sheeting where you apply an adhesive to it that is pressure-sensitive, you usually use in the order of one-half—an average of a half a thousandth.

3350 Q. Thousandths of an inch? A. Thousandths of an inch; and working with a five percent solution it is very difficult to get that layer.

Q. In a single coat, I take it. A. In a single coat. And possibly in two coats. I would like to check both.

Q. Will you again press against that double-coated sheet you made with the two layers of adhesive on the same side and strip it or peel it from the plate and describe whether it takes force or it doesn't take force. No, strip it from the plate. (The witness complies.) Examine the plate carefully. Has there been any transfer or offsetting of the adhesive to the plate? A. No, there has not.

Q. Show it to the Court, please. (The witness complies.) Did it require force to peel that sheet from the glass plate? A. Yes, some force was required to peel it.

Q. Before you go—

Mr. Haight: Just a moment. By "some force" do
3451 you mean about the force it would have required if there had been a few drops of water between the sheet of cellophane and the glass, about that force?

The Witness: I don't know.

Mr. Spille: We will get some water.

Mr. Haight: You understand that if you have water between the sheet of cellophane and the glass it will take a little force to pull it up.

The Witness: Yes.

Mr. Haight: You understand if you take a sheet and just exhaust the air with just a drop of oil or something, it will take force to pull it up.

The Witness: It will take some force.

Mr. Haight: And that is the order of force you were speaking of when you said it took force to remove it from the plate, wasn't it?

The Witness: I don't know. I haven't tried it with water or exhausting just the air.

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3452 Mr. Haight: I didn't get in the point of time that that adhered to the glass plate when you picked it up. It was some small fraction of a second, about a fifth of a second.

The Witness: I didn't time it. It was a very small period of time.

Mr. Haight: A fraction of a second.

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3453 Q. Will you measure the thickness of the coating of rubber that you have applied to the sheet you have been describing.

Mr. Haight: This is sheet No. 2?

3454 Mr. Spille: Sheet No. 2.

A. The uncoated portion of the cellophane "mikes" approximately 1.7 mils, 1.5 to 1.57.

Q. Is there any substantial variation in the thickness of— A. With the coating of the smoked sheet on it "mikes" 2 mils, so that there is approximately .5 to .3 mils of rubber on the cellophane sheet. It is quite a thin coating.

Mr. Haight: That is a good solid 2 mils, isn't it? You could even make it 2.1?

The Witness: I was looking right down the center. You can check.

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Mr. Haight: Well, that is a good solid 2. Try some more.

3455 Mr. Spille: What is a "solid 2"? I don't understand.

Mr. Haight: Plus. Try some more.

The Witness: 2.1. 2.1 on that one. A not-so-solid 2. and 1.9. 2.1.

Mr. Spille: Your Honor, we intend to put additional coatings on that sheet.

The Court: I am not going to make it adhere. Try to measure the amount of adhesive towards the center instead of towards the end.

The Witness: 2.1 on that. 2.2. 2.15. 3 on that one. We are resting on a bubble at that point. 2. 2. 1.9. 2.2. 2.4.

Q. Now on the average, what is the thickness of adhesive layer or rubber layer deposited on that second sheet you have just been measuring? A. It would be a maximum of—well, let's see. It would be an average of .4 to .6. I don't think we can get it in an exact—because the cellophane varies slightly.

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3456 Q. Will you please put another coat on top of that very same sheet. Suppose you try a spatula or something like that, if you want to speed up the coating process. A. All right.

Q. Please place that same sheeting in the laboratory oven. I note the temperature is now known as 98 degrees centigrade. Leave it in there for another two minutes, Mr. Shalita. A. All right.

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3457 Q. All right, sir. A. I have taken a sheet marked 3-coat smoked sheet, which is the smoked sheet

rubber solution coated on the cellophane and dried in the oven. I will now apply the adhesive down in contact with the glass plate.

Q. And how far did it take the glass plate then before the cellophane peeled off? A. About six inches.

3458 Q. Was any residue of adhesive left on the glass plate? A. No.

Q. Now, Mr. Shalita, I hand you—

Mr. Haight: Just a moment. It took about a half-second, didn't it, to get it up to that height?

The Witness: Yes, I think about half a second or so.

Mr. Haight: And the area there was substantially the area of the plate, was it?

The Court: Substantially.

The Witness: Yes, substantially the area.

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3460 Q. What is the approximate coat of the adhesive left on the sheet we have been describing, Mr. Shalita? A. Approximately a mil point 3. Approximately a mil point 3.

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Recross Examination

By Mr. Haight:

3474 Q. Will you turn to the Brandenberger patent, please. The last question the Court asked you was if that wouldn't be Brandenberger's. I would like to have

you point out to the Court on page 2 where Brandenberger says to put nitrocellulose on the sheet of cellophane to accomplish his object. A. I said he did not say that.

Q. Well, I just suggest you turn to page 2 and show where he did. The second paragraph, the first sentence. Will you read that please. A.

> "Instead of ordinary cellulose sheets we can use cellulose sheets which have been treated in such a process so as to present a surface coated with fatty ethers of cellulose, either nitrated or acetylated superficially."

Q. What does that mean to you? A. That is a method, as Mr. Brandenberger states, of chemically forming nitrocellulose or cellulose acetate on the cellophane itself. It is not a coating.

Q. And for his purpose he indicates that it worked, doesn't he? A. Yes.

Q. Because his purpose was merely to close the
3475 pores, wasn't it? A. His purpose in putting the treatment on—chemically converting the surface of cellophane to an acetate or a nitrate is to chemically form this protective material on the base itself.

Q. And why does he want it there? A. He mentions to close up the pores of the cellophane.

Q. All right. And he says he can use that without any coating at all, doesn't he? A. Yes.

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3479 Now, then, let us leave out the coated products, as to which there may be debate, but let us just review the four products as to which we are in complete agreement. First you can insulate with a plain sheet of cellophane, and he says so, doesn't he? A. Yes.

Q. Second, you can insulate with two sheets of
3480 cellophane pasted together, with no adhesive on the exterior? A. That is another form of construction.

Q. Third, you can have your plain sheet of cellophane and treat the surface to convert it into cellulose nitrate? A. Yes.

Q. And fourth, you can treat the surface to make cellulose acetate? A. Well, 3 and 4 go together, in my mind.

Q. All right, they are separate in mine. So that makes the four, doesn't it? A. It makes four for you and three for me.

Q. All right. Now in none of those instances does he have an adhesive; that is correct, isn't it? A. In none of those instances does he have an adhesive; he is just talking of his backing material in these three instances.

Q. What do you mean by the backing material? A. He is talking about his insulating material is the cellophane which is treated or coated, because the plain cellophane is not his preferred one. He closes up the pores. And among the ways he closes up pores is to coat the
3481 cellophane in some manner or laminate it together or to take the laminant and coat them.

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3500 Q. Now of course that weight can also be held by a person buying commercial tape and putting a half-inch square contact, which would be enough, wouldn't it?

A. Possibly. I would have to try it. I couldn't say
3501 that a half-inch square contact would be sufficient.

Q. Well, what is the width of this tape? A. Three quarters of an inch.

Q. All right. I will try to take off a square of the tape, or maybe a little bit more than a square, and I will fold one corner of it and that will hold it, won't it? A. Yes, it will.

Q. Now, the area of the adhesive, or at least one of these examples probably typical was about 26 square inches. A. Where do you get the 26 inches?

Q. 6½ x 4 inches would be 26 square inches, wouldn't it? A. Yes.

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3502 Q. And the ratio of area to weight was 26 square inches to 12—well, let us call it 12 ounces weight, which means that it took better than two square inches to hold a one ounce weight when it held it. A. I assume your calculations are correct, Mr. Haight.

Q. Well, I was dividing 12 into 26, and it seemed to me to go a couple of times. A. Right.

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Q. Did you compare the Kronstein addition? A. Yes, I did.

Q. And the Austrian does not show anything that any of the others do not show? A. No, they are about the same, Mr. Haight.

3503 Q. And that included all of the Kronstein patents? A. The English, the French, and the U.S. compared to the Austrian, which we discussed at length.

Testimony of **Richard G. Drew**, called as a witness by Technical.

Direct Examination

By Mr. Morris:

. . . . . .

1546 Q. You remember that you also testified in the suit of Minnesota Mining v. International Plastics? A. Yes.

Q. That was before Judge Barnes in Chicago, is that right? A. Yes.

Q. Now you were the applicant for the patent which is here in suit, 2,177,627, were you not? A. Yes, sir.

. . . . . .

1547 Q. You are now employed by Minnesota Mining, aren't you? A. Yes.

Q. You first became employed in what year? A. 1921.

Q. And have been continuously employed ever since that time? A. Yes, sir.

Q. Your position now is what? A. Oh, Director of Products Fabrication.

Q. What does that mean, Mr. Drew? A. I have charge of some 17 men as a separate laboratory, and my responsibility is to do whatever I can in the direction of originating new products for the company.

1548 Q. And to have your men do the same thing, the 17 of them? A. Yes, I would say so.

Q. All engaged in the same sort of work? A. Yes, sir.

Q. In 1927, let us say, what were your duties at Min-

nesota Mining? A. I was heading up the tape activity at that time.

Q. And in 1926? A. The same duty.

Q. And in 1925? A. 1925, part of 1925 I was helping a Mr. Okie, who was the developer of waterproof wet-or-dry sandpaper. I was working for Mr. Okie the early part of 1925.

Q. Now was 3M essentially interested in sandpaper in 1925 or in tapes? A. Sandpaper.

Q. It sort of branched out into tapes in '26? A. Starting about, to the best of my knowledge, about June, May or June of '25.

Q. And were you that one that, under the proper direction, initiated the tape end of the business? A. At the very beginning?

1549 Q. Yes. A. I initiated it.

Q. And the first product that you got out was the masking tape? A. It was known as 3M non-drying tape at that time.

Q. That is what we now call masking tape? A. Yes, sir.

Q. That at that time was a paper-backed tape, you know, the first of it, in 1925, '26, whenever that was? A. Yes, it was.

Q. What kind of paper did you first use? A. The very first masking tape had a backing equivalent to a good grade of wrapping paper. In fact, I think it was, it could be rightfully called wrapping paper.

Q. And what kind of an adhesive did it have on it? A. It had a gelatin or, rather, a high grade cabinetmaker's glue

adhesive plasticized with glycerine. It was very much like the composition of a ditto blanket.

Q. Did you have to wet that to reactivate it? A. No, sir.

1550 Q. That stuck all by itself, like the thing we now call the pressure-sensitive adhesive? A. Yes.

. . . . . .

1551 A. So, it was my duty to take these different hand spreads that I made up for Mr. Okie, using varnish as a binder to hold the grit on to the paper, and I was to and I did take them out to the auto paint shop, there in St. Paul, and wait until the proprietor of the paint shop, the foreman rather, tried them out on different bodies, automobile bodies, and then take them back to Mr. Okie with the man's comment. And that exposed me to the problems that the paint shop man was experiencing in those days. . . . And Mr. Gordenier had tried different masking materials to prevent the overspraying from the spray gun. And I walked into the shop one day, and he was quite handy with profanity—I had heard him—and he had used regular gum tape to do that very thing, make an apron on the car, and was taking it off and it had
1552 pulled some portion of the lacquer, on which it was placed, off with it, necessitating him redoing the job to some extent at least. So, for one reason or another, the thought hit me that what Mr. Gordenier wanted was a non-drying gummed tape rather than one that would adhere to the lacquer so firmly.

. . . . . .

A. So, I took some of it and made a hand spread, as Mr. Okie used to call them, and spread out this gummy sticky oil on a 6-inch width of paper, 18 to 20 inches long or
1553 longer, and took it back to Mr. Gordenier, who tried

it on a car. That was the very beginning of it.

Q. When you speak of a hand spread, do you mean spreading of adhesive on a backing by hand operation? A. Yes.

Q. When you spread it on by way of machine, do you call it a machine spread, or is there any name for it? A. Well, the first hand spreads I made, or that Mr. Okie taught me to make, were made by putting a piece of paper on a piece of plate glass on a laboratory bench, holding it down at one end with a clamp, pouring on whatever materials should be spread, and then taking a stirring rod, a glass stirring rod, and pull it down the lengtth of the paper. The excess scraped off at the end. That was known as a hand spread. And when this idea of a non-drying tape hit me, and I had made a few hand spreads, the thought occurred to me that I could make a small machine, you might say a steel platform, with something like a French guillotine knife on it, and that it would contribute to more uniform hand spread work.

Q. So that you could adjust the knife upwardly and downwardly— A. That is correct.

1554 Q. —and control the thickness of the adhesive that was going on the backing? A. That i right.

Q. Now when you took this hand spread piece of paper over to Mr. Gordenier, did he stick it on an automobile? A. He put it on a Packard he was refinishing.

Q. Packard? A. Yes, sir.

Q. What happened? A. The Packard was an Imperial or a Royal Blue, and apparently the acid value—I am not a chemist, but I understand there is an acid nature to oil—the acidity of the oil, if that is proper to say, completely

bleached the Royal Blue color out of the lacquer and made it look more like a robin's egg blue.

Q. And that you saw after he pulled the piece of paper off? A. I saw it the next day or two.

Q. Well, did the adhesive that you put on the paper stay with the paper or stay with the automobile? A. Well, he was able to remove the paper, but not all the ad-
1555 hesive came off with the paper. It wasn't a satisfactory adhesive by a long way.

Q. You mean some of the adhesive stayed on the automobile? A. Yes, sir.

Q. So, then, you had the problem of getting an adhesive that would stick to paper and would not stick to the automobile? A. Yes, sir.

Q. I suppose you then went ahead and tried to solve that problem? A. Yes, sir.

Q. Ultimately you did solve it when you got this masking tape with the paper back? A. Well, it was solved reasonably well when I employed the glue gelatin or the glue plasticized with glycerine. We made substantial quantities of non-drying adhesive through 1926, some part of 1927. It wasn't very good, but the trade bought it because there was nothing better to use.

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1556 Q. You ultimately did solve that, didn't you? A. Oh yes, yes.

Q. What kind of an adhesive did you have on that paper that solved that problem? A. It was the glue-glycerine adhesive.

Q. The glue-glycerine adhesive?

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1557 Q. What was that, in tape form with the adhesive on one side and not on the other? A. Yes, sir.

Q. And that was rolled up into rolls? A. Yes, sir.

Q. Like we have today in the form, let us say, that is what I mean, of masking tape rolls, as put out by Minnesota Mining? A. It had to have a cheesecloth liner in it in order to have it unlined without splitting the paper.

Q. You mean there was a layer of paper, a layer of adhesive, and a layer of cheesecloth? A. Yes.

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1559 Q. But you were trying, even at that time, to solve the problem of the relation between cohesion and adhesion? A. Yes, sir.

Q. And you went right on trying to solve that in connection with your masking tape? A. Yes, sir.

Q. That attempt to solve that problem involved the exploration of papers, of paper treatments— A. Yes, sir.

Q. —and of adhesives, didn't it? A. Yes, sir, it did.

Q. What did you do in exploring the paper possibilities? A. Well, our first objective was to get away from the cheesecloth liner because it was awkward for the workmen to have to remove it. So we tried to get a paper
1560 that was sufficiently tough and the fibers were sufficiently unified, as we have learned to call it, so that we would not have to use the cheesecloth liner; it would tolerate being wound up on itself and unwound without in any way disrupting the paper. And we tried a number of things on the market, different kinds of treated papers, wax papers; we tried papers coated with asphalt that had a cheesecloth netting imbedded in the asphalt coating. We did such things, trying to find a satisfactory

backing that could be used for tape without requiring the adhesive to be covered up.

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1562 Q. Now there came a time when you did settle—well, let us see. You said you first tried out ordinary kraft paper. It was like wrapping paper, wasn't it? A. Yes sir.

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Q. That is you would take a piece of paper such as kraft paper, or the oiled paper or whatever papers came along, and you would make a hand spread of the adhesive that you were using at the time to see what would happen? A. Yes, sir.

1563 Q. And what happened, happened, didn't it? A. Yes, sir.

Q. Now the hand spread that you put on those various papers, and that adhesive in those days was put on the papers in just the same way, that is, by either rolling it on with a rod such as you have spoken of, a stirrer, or with a knife? A. Yes, and once in a while a wringer roll.

Q. And when Guth brought in a couple of pieces of cellophane around 1929 you did the same thing with them, you took some adhesive that was currently used on the masking tape and made a hand spread of that to see what would happen, didn't you? A. Yes, sir.

Q. And what happened, happened? A. Yes, sir.

Q. And you did not do anything different there except use different material on the backing than you had been doing before in connection with the other experiments that you carried on? A. Yes, sir

Q. And as a result of that hand spread, when you

1564 evaluated it you found that the adhesive that you had spread on, which was the current standard adhesive for the masking tape, stuck to the back of the cellophane, didn't you? A. Yes, sir.

Q. And you found also that when you let it dry for a little while or stand a little while you could stick it on another piece of cellophane and it would pull off? A. Yes, sir.

Q. Just as the masking tape would pull off? A. Yes.

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1570 Q. And those sheets of cellophane that Guth got from DuPont, they were obtained in July of 1929, weren't they? A. I don't know for sure. Maybe June or July.

Q. But either the latter part of June or the first of July, the first part of July? A. Around that time.

Q. And when they came in how long did they lie around before you put some masking tape adhesive on pieces of them? A. Oh, I don't know exactly. Maybe—maybe two or three weeks, maybe not that long; maybe longer.

1571 Q. Tell me just what you did in spreading that masking tape adhesive on those pieces of cellephone. A. Well, the first step was to cut the sheet of cellophane down to a 6-inch width or at least cut a 6-inch width piece of cellophane out of the sheet so that it would fit into the knife coater, and then that 6-inch width was placed in the knife coater, some of the masking tape adhesive poured on the cellophane directly behind the knife, and then the 6-inch piece of cellophane pulled through under the knife manually to establish a coat of adhesive on the surface of the cellophane.

Q. Then what did you do? A. Well, the usual practice then was to allow the solvent to dry out and after that happened I cut a one-inch strip of freshly-made hand spread from one edge of the 6-inch strip, placed it on the back of the remainder of the spread, the uncoated surface of the remainder of the spread, ironed it on with a little caster, a roller, and then ripped it off. That is the standard procedure.

Q. What do you mean by "ripped it off"? You mean you gave it a quick yank? A. A fairly quick removal effort.

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1572 Q. And what was the composition qualitatively and quantitatively of the masking tape adhesive that you used in that work? A. Well, it had rubber zinc oxide and rosin. I don't know offhand whether it had oil in it or not.

Q. What kind of rubber did it have? A. I believe we used smoked sheets.

Q. And what kind of rosin, do you know? A. Solros.

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1576 Q. And the aging of the adhesive, whether on a paper backing such as masking tape or on a cellophane backing, it is just the same, isn't it? I mean, as far as the aging is concerned, it didn't make any difference what kind of backing it is on? A. I don't think that is true. I think the backing in some cases, in my own experience, had something to do with the good aging of the adhesive.

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1579 Q. Did you submit those hand spreads that you had ripped off in June or July 1929 to anyone around

that time? A. Yes; I brought the hand spreads to the tape meeting in Mr. Carlton's office some time later.

Q. That was as late as August 13, 1929, wasn't it? A. According to the record, it is the actual date.

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1580 By the Court: Q. Was it your idea to get the
1581 cellophane sheets or the samples of cellophane paper from duPont, or did Mr. Guth get it? A. Mr. Guth brought them in.

Q. And up until the time Mr. Guth brought it in, your mind hadn't run in the direction of cellophane paper or application of cellophane paper with adhesive tape—with adhesive? A. No, sir, it hadn't.

Q. Never occurred to you. And when Mr. Guth brought that paper in did he bring it in to you with a view towards developing a wrapper for the masking tape so that you could have a moistureproof wrapper for it, or did he bring it in to you with a view towards your experimenting with it to develop a tape with a cellophane backing? A. He requested the sheets of cellophane from duPont to go ahead with the project. Mr. Carlton had assigned him to wrap the individual cartons of masking tape in moistureproof cellophane to reduce the take-on of moisture during high humidity periods.

1582 Q. So up until that time there had been no thought about using cellophane as a backing for pressure-sensitive tape? A. Not on my part I had not.

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1583 Q. When the cellophane came in from duPont in June or July of 1929, you simply took the masking tape adhesive that you had around and that was being used

on masking tape at that time and spread it on the
1584 cellophane as you had spread the same adhesive on different other kinds of backings such as kraft paper or the combination of kraft and parchmentized paper? A. Yes, sir.

Q. And the others? A. I used the same procedure.

The Court: Was it your practice to try out these different types of papers or material?

The Witness: Yes, sir.

The Court: And in doing that you just tried out some adhesive on it.

The Witness: Not just for the fun of it was I doing it.

The Court: Of course you were not there to entertain yourself.

The Witness: No.

The Court: You just were trying it out experimentally to see what would happen, is that it?

The Witness: I had a particular objective in mind in trying it.

The Court: You had never heard of cellophane tape before, so that your objective developed after you first saw the paper?

The Witness: Yes, it did, sir.

1585 The Court: In June or July when that sample of paper first came into the laboratory, some thoughts came to you and you decided that you were going to try out the masking tape adhesive on it?

The Witness: I had a problem, your Honor, submitted by a local paper jobber, which was to wrapper-enclose some

black lining insulation in a sufficiently waterproofed manner so that the finished package could be submerged in water for a given period of time. I don't remember how long, and that finished package with the black lining insulation inside was to be used in refrigerator cars, and railroad cars. That problem was brought to me by Mr. Dave Simon of the Anchor Paper Company. He had already tried masking tape and it had its limitations, and I was after something better than masking tape from a waterproofing angle in order to meet that test of submerging in water, and that is one reason I tried the parchment kraft paper, and I tried a number of things to get maximum waterproofing resistance and the submersion test. And when I saw cellophane and knew there was such a thing as moistureproof cellophane, I had the idea of evaluating it on that package.

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1586 Q. And there wasn't anything particularly that you did beyond spreading the adhesive onto the cellophane and letting it dry and then sticking it to another piece of cellophane; that is true, isn't it?

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A. Well, in doing it I educated myself to some extent on the physical properties of cellophane and gained
1587 some appreciation of whether cellophane had the right makeup to it, the right physical properties to serve as a tape backing.

Q. And that was the evaluating that you did after you had carried out these mechanical operations that I have just spoken about, is that correct? A. The mechanical operations helped me to do that, to make that evaluation.

Q. Now in the mechanical operations all that you did

was to clip off a piece of normal cellophane and spread the masking tape adhesive upon that and then stick it to another piece of cellophane which was on the table or the workbench; that is right, isn't it? A. Not exactly. I turned the 6-inch hand spread after I had cut an inch or so off one edge I then turned the balance of the hand spread over adhesive upside down and put it on a piece of plate glass and then ironed the one-inch strip onto it.

Q. Yes, to see whether it would stick to it or not. A. And come off.

Q. And come off. A. Yes, sir.

Q. That is all you did, isn't it? A. Yes, physically.

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1601 Q. In August 1929 you hadn't gotten very far with the masking tape as a commercial product, had you? When I say "you" I am talking about 3M. A. I think we had come a substantial distance on masking tape at that time. We had gone through a number of phases, you might say, and had arrived at a construction that was satisfactory generally. It was not perfected, but it was sufficiently satisfactory to build up sales.

Q. And the meeting on August 13, 1929 was to discuss generally the masking tape problem and perhaps improvements in that, and so forth; is that right? A. Yes, tape problems generally.

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1602 Q. Now at that meeting, those hand spreads were exhibited to the various persons at the meeting, weren't they? A. They all looked at them.

Q. And the general concensus of opinion was that they might have possibilities? A. Yes.

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1603 Q. Do you know the Waldorf Paper Company? A. Yes, sir.

Q. Do you remember that company? A. Surely.

Q. Sometime in 1929 you visited that company, didn't you? A. Yes, sir.

Q. And did the question of a transparent adhesive come up at that time? A. I think so.

Q. Who was the designer at the Waldorf Company? A. I know the man's name; I can't think of it at the moment.

Q. Well, perhaps you can later. Did this designer ask you whether you could make a tape as transparent as glassine and with the kind of adhesive which would stick to a highly enameled paper surface? A. He did.

Q. Now after that meeting of August 1929 there was an attempt to produce some of this cellophane tape or strips with the masking tape adhesive on it by using some kind of machinery, wasn't there? A. Yes, sir.

1604 Q. And where was that attempt made, in what part of the plant? A. Oh, in the basement of what we called the wet-or-dry sandpaper building.

Q. You didn't even attend that run, did you? A. Yes, sir, I think—I don't know whether I attended the first run or the second run. I recall being present when some cellephane was put through the machine.

. . . . . .

Q. And some of that was run through on this machine down in the cellar, wasn't it? A. I believe so.

The Court: What kind of machine was this?

The Witness: It was the knife coater that was being

employed to coat masking tape.

1605 Q. It was a machine as distinguished from a hand coater? A. Yes, sir.

Q. Now at that run did they use that September 4th cellophane? A. I believe so. Some cellophane was ordered from duPont shortly after the meeting in Dick Carlton's office.

. . . . . .

1607 Q. On these hand spreads that you made in June or July 1929 the resultant composite tape was white, wasn't it? A. No, sir.

Q. Because of the zinc oxide being present? A. No, sir.

Q. Was it transparent? A. No, sir.

Q. Was it yellow? A. Yes; brown.

Q. The zinc oxide made it yellow, did it? A. No, sir.

Q. What made it yellow? A. The Solros rosin.

Q. But the zinc oxide made it opaque? A. Yes, sir.

Q. So you had yellow opaque tape? A. Yes.

. . . . . .

1608 Q. If you had left the zinc oxide out of the masking tape adhesive would it have been a transparent adhesive?

. . . . . .

1609 A. My answer is yes, if the zinc oxide had been left out the adhesive would have been transparent rather than opaque. But it wouldn't have been a—it would have had a brownish cast coloring to it, due to the Solros.

By the Court: Q. Was the zinc oxide put into the form-

ulation just for coloration? A. No, sir.

1610 Q. So that if you removed the zinc oxide the adhesive would be a different adhesive? A. Yes, sir, it would.

Q. Not alone different in color, but it might have been defective or—A. It would have different physical properties.

Q. Which might render it unusable for the purposes for which it was used? A. Yes, sir.

By Mr. Morris:

Q. Well, if you left out the zinc oxide from that masking tape adhesive would it have rendered it unusable as a pressure-sensitive adhesive for tape? A. Let's see. We are still talking about the 137-30 Solros.

Q. Yes, that is the adhesive that you were using in June or July 1929. A. In that particular formula I would think offhand that would have been very close to one or more of the experimental transparent adhesives we subsequently evaluated. That would be 137 pounds of rosin to 250 pounds of rubber.

Q. It would have been satisfactory? A. I think it is in the same class as the exploratory transparent ad-

1611 hesives we subsequently came to.

Q. I am not quite clear on that. If you took the zinc oxide out it would still be a satisfactory pressure-sensitive adhesive for tape; am I right in that? A. Well, it will not be the kind of adhesive we eventually arrived at. But, as I said before, I think it would be in the same classification as the early exploratory formulas we evaluated.

Q. In so far as it would have been satisfactory from the

point of view of non-offsetting or non-delamination; is that right? A. I think so, yes.

Q. And also it would have been satisfactory from the point of view of tackiness? A. Yes.

Q. But that was not the kind of formula that you ultimately arrived at; you had a different one than that, didn't you? A. Yes, sir.

. . . . . .

1612 Q. And part of your conversation with Mr. Miller (Shellmar Products) was about the possibility of improving the appearance of the masking tape construction which you were then manufacturing so it could be employed as a sealing medium on cellophane-wrapped packages? A. That was part of it.

Q. Shellmar was a specialty printer organization, wasn't it? A. Yes. Their specialty was printing cellophane.

Q. Printing slogans and whatnot on the cellophane? A. Yes.

Q. And at that discussion with Mr. Miller he suggested using a transparent adhesive on the cellophane tape, didn't he? A. I made the suggestion.

Q. You made the suggestion? A. Yes, sir, I did.

Q. What was the date of that? That was in June 1930; is that right? A. Yes, sir, approximately. I would like to make a correction, if I may.

1613 Q. Yes, of course. A. I do not know whether I suggested the use of transparent pressure-sensitive adhesive at the meeting or shortly thereafter, for sure.

. . . . . .

1630 Q. Now in one of those letters, Mr. Drew, you said
1631 to Shellmar Products, or Minnesota Mining did, that you were working very hard on making the kind of adhesive and tape that they want; do you remember that? A. Yes.

Q. And one of the things that was being done was an attempt to get the adhesive transparent? A. Yes.

Q. And the other was to match up colored tape such as duPont's colors in their cellophane? A. Yes, sir.

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1633 Q. Now once having a pressure-sensitive rubber-resin adhesive for use on cellophane backing to form a tape, there was no considerable problem to make that adhesive colored, is there? A. I don't think there is. Just the selection of the right color pigment ground into the rubber.

Q. That is, if I had a clear or transparent adhesive of the rubber-resin type or, let us say, of any of the types of Examples D and C or E of your patent in suit, to make those colored would be only a matter of putting a dye in or some pigment? A. Yes, exploratory compounding.

Q. That is, you would have to determine the amount by trial and error? A. Yes, sir.

Q. And that would be in order to get the proper shade of the elected color? A. Yes.

1634 Q. But there is no problem in compounding, is there, the color with the adhesive? A. The selection of the right color pigment and the quantity to be added to the base stock. If I recall accurately, I think on one or more occasions we ran into trouble because a certain color pigment might produce poor aging on the rubber on the pressure-sensitive adhesive.

Q. That is when the pigment was used? A. Yes.

. . . . . .

1635 Q. The addition of a pigment or of a dye to the adhesive is something that in 1931 the ordinary chemist would have known how to accomplish, based on his background of chemistry?

Mr. Haight: May it please the Court, that is not asking a factual question of this witness. As to what would be within the knowledge of an ordinary chemist in 1931 calls for a conclusion and it is not a factual question which they said they wanted to ask Mr. Drew.

The Court: Well, are you a chemist, Mr. Drew?

The Witness: More of a cook.

The Court: You are modest enough. Are you familiar with what a chemist is likely to have known in 1931 with reference to pigments and dyes?

1636 The Witness: I think so, in a general way. I haven't had any experience personally.

The Court: Well, I don't think he is competent to answer that question. You are just one of those "tinkering fools" that comes up with some pretty good things once in a while?

The Witness: Yes.

. . . . . .

1820 Q. Now, Mr. Drew, you said you used whale-hide parchmentized paper. A. Yes, sir.

Q. Is that whale-hide the trade name or is it the name of a certain kind of parchmentized paper, a certain class of parchmentized paper? I never heard of it. I don't know. A. I don't either. It was made by the Kalamazoo Vegetable Parchment Company.

Q. And you knew it as whale-hide paper? A. Yes.

1821 Q. Now, what did that look like? A. It was somewhat tan-colored, brownish-tan, and it was, as I recall it, uneven. It had a freckled, mottled appearance to it.

Q. Was it clear paper, or could you see through it? A I couldn't see through it.

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The Court: Did you ever look at that whalehide parchment paper through a microscope?

The Witness: I think—I am saying "I think" when I should not.

The Court: Yes, and you don't recall?

The Witness: Yes, I do recall. I do recall.

The Court: Did it look to you like a smooth gelatinized type, or could you see the fibers?

The Witness: Your Honor, I couldn't see the surface. I could see the fibers, but the exact physical nature of the base of the parchment paper I am not qualified to
1822 describe.

The Court: Was it smooth or did it have any hills and valleys or any indentations?

The Witness: It did not look smooth.

The Court: All right.

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By Mr. Morris:

Q. So you could see some remaining fibers when you looked through a glass or however you did, at that piece of parchmentized paper that you spoke of a moment ago?

A. You could see some of these fibers. I could see fibers, yes.

Q. But the outside of all the fibers were gelatin-
1823 ized?

A. I am guessing at that from the description of the process. I actually saw the process of parchment paper making at Kalamazoo for the better part of one afternoon, and there I saw the paper dipped into the acid and I saw it brought out. I saw it dipped in water and I saw it running up and down rolls with water showers playing on the surface to neutralize the acid, and then I saw it wound up, dried and wound up.

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1824 Q. All right. Now, going to your 1,760,820 patent, page 5, column 2, line 84 and so forth, looking at that from there down to 110. I mean the description on page 5 of the masking tape, page 5, column 2; do you see that? A. Yes, sir.

Q. Now, from line 84 on down to the bottom of that page it describes a way to treat the paper so that it will be strengthened and flexible, and so that you will get as smooth a surface as possible; isn't that true? A. No, sir.

Q. What part of it isn't? A. This describes an attempt to unify a piece of absorbent toweling paper.

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1931 Q. Have you no recollection yourself of it? The letter does say that and we can rely on the letter, but I am trying to find out what you know, Mr. Drew, you see, not just what you get from letters, unless it refreshes your recollection as to what went on back there. A. I know what went on generally, that right around that period, and maybe slightly before, we started in exploring transparent

pressure-sensitive adhesives. I don't know how many explorations or formulae were made up prior to that particular one. And I know that that is about the time we began to put a lot of effort, or some effort, on the formulation of the transparent pressure sensitive adhesive.

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Cross Examination

By Mr. Haight:

1978 Q. Mr. Drew, several days ago you were describing making a hand spread, and I don't want to go through what the steps were now because I think that
1979 is sufficiently on the record, but you testified that you had used that method with masking tape and then later used it with cellophane. I would like to have you just state briefly why you evolved that method of testing a proposed tape, or what was the purpose of that method of testing. A. Yes. The test itself came the closest of anything I could think of to duplicating at least some of the stresses and strains put on a tape when it is unwound from roll form in the finished product. The hand spread technique does not bring into play all the troubles, but it is a quick way to get at least a rough idea of how the tape might behave in roll form.

Q. Now in the masking tape that you coated with adhesive, what was the surface on to which you put the liquid adhesive? A. Well, it was rough, it was on toweled paper, crepe paper, and so it was rough; and, in addition to that, having treated the paper ourselves I was in a position to control what I used to refer to as a dry finish on the face, or the side to which the adhesive is coated, in the process of treating that would become established, and then we backsized later, but we have a dry finish in the surface to

which the adhesive is coated, and then a not so dry
1980 surface on the back side to which the adhesive makes
contact when it is in rolled form. And there was a good deal of work done to establish that preferential.

Q. Now there was one point in the record where there was some question as to what is the face and what is the back. I have here a roll of tape with the adhesive on the bottom. Now that bottom is what you have referred to as the face, is that right? A. Yes, sir. The surface which carries the adhesive is the face side.

Q. And then the back is the portion with no adhesive on it? A. That is the back side.

Q. When you said you backsized, what do you mean by that? A. I put a treatment on the back side, the side that does not carry the pressure-sensitive adhesive.

Q. And what was that treatment for? A. That was to make it more difficult for the adhesive to stick to the back side because of that added treatment it carried, compared to the drier side or finish on the face side to which the adhesive is coated.

Q. Now then when you were making your hand
1981 spreads with the masking tape you had the sheet
pressed down against the glass, with the adhesive down, and you had the back side portion up, and then would place the adhesive of the next strip on it and remove the strip with the adhesive; is that right? A. That is right.

Q. And the adhesive came with the side on which it was coated? A. Right.

Q. And that was the side where you had the rough surface without the backsize? A. That is right.

Q. Now when you made your first hand spread, using

cellophane, was there any difference on that cellophane between the face and the back side? A. No different at all.

Q. Well, then, did you have an idea what was going to happen when you pulled that first strip up from the hand spread? A. From previous experience I think I might have been or was surprised that there was no delamination of the adhesive from the side on to which it was coated to the back side or the surface on to which it had been pressed because both sides were identical.

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1982 Q. Now, back at that time, we can cover the period 1929, 1930, did you have some men working with you and under you? A. Yes. I had maybe four or five men responsible to me. I was the supervisor of this laboratory.

Q. Well, how did you operate at that time? Did each of you do the same work, or how did you operate? A. It was a question, a good deal, of talking shop and then asking some one man to take over that phase of the work and do it.

1983 Q. And did you use the men in your laboratory to carry out specific jobs that you wanted done and develop the work? A. That is what they were there for.

Q. That is the reason they were assigned to you? A. Yes, sir.

Q. And you did use them on this project that ultimately eventuated in the patent in suit? A. I did.

Q. And you used them on other projects in the same way? A. Yes, sir.

Q. Can you name those men? A. Well, there was Gil Gehrenbeck, Grant Merrill, Al Wartha, Harvey Livermore.

That is about it. This fellow Guth was in there in the same room, and he had been given special assignments by Dick Carlton in the direction of tape treating.

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By the Court:

Q. Mr. Drew, perhaps instead of asking you questions I will give you a problem that is in my mind on which
1984 I would like to have you expound and tell me. I would like to know just what part of the work you did in developing these adhesive formulae and what part the other people did. What was your role in their development? A. To outline the work to be done basically, suggest ideas to follow through on in determining whether we should go this way or go that way in some problem involving construction. These men were sent to me by Mr. Carlton. For quite some time I worked alone. And when things began to get a little complex and too many irons in the fire, Dick would send me a man to do the bench work, a pair of hands to follow through on ideas that I had and didn't have the time to do all myself.

Q. That is the role you played generally in the development of these formulae, the adhesive formulae? A. Yes. There were times when these men, as they picked up the art, would have ideas of their own. I didn't have all the good ideas in the laboratory, by a long shot. But in this period when they were all relatively new.

Q. And what period was that? A. Well, from, really starting about 1928 through '29, '30, maybe a year
1985 or two more. Then it became more formalized and many more men added.

Q. Now when was the Formula E developed? A. I don't know offhand, your Honor.

Q. Would you say, with respect to Formula E, that it was your conception and you just had other hands help you do the manual work? A. I am very sure of that.

Q. And you had others who bore the relationship to you that you described very modestly that you bore to Dr. Okie as his flunky, sort of? A. Yes, sir.

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By Mr. Haight:

1986 Q. You were asked with respect to adhesives, and now I am going to transcript pages 1783-4 with respect to an adhesive furnished by duPont in work being done at 3M and by duPont on sealing masking tape in moistureproof cellophane. Do you recall that time back in 1929? A. I recall it very well. Mr. Guth worked on it from early '29 on through until October or November. It was very important to me because we were having considerable trouble with our masking tape taking on moisture out in the trade.

Q. Do you recall how that adhesive was used? A. Yes.

Q. Or was to be used, how it was proposed to use it? A. In a general way I do. As the letters instruct, it was to be brushed on the moistureproof cellophane and then the ear of the package or flap of the package folded over and dried.

1987 Q. Do you remember whether heat was used in drying it? A. Yes; they recommended a hot plate, I believe. At least Guth used one.

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Redirect Examination

By Mr. Morris:

1992 Q. Now you said a little while ago that you were surprised, as I recollect what you said, that when you had made this hand spread and stuck one piece on to 1993 the other, that there was no offset? A. Yes, sir.

Excerpts from Plaintiff's Exhibit 28

Deposition testimony of **Richard G. Drew** on adverse examination:

(Page numbers at left refer to pages of deposition transcript.)

Direct Examination

By Mr. Morris:

. . . . . .

15 Q. So the date that you testified that you made the invention of this patent in suit was some time before August 13, 1929, isn't that right? A. Yes, in a certain sense that is right. I would like to add that the reason I made that statement "yes", the date of the patent was some time prior to—the date of the invention was some time prior to August 13, was because from my point of view I considered the first evaluation of cellophane as a backing to be the date of the invention. I still say that that is true in a sense. But these hand spreads you have reference to did not employ a transparent adhesive, nor did they employ a colored adhesive in the sense I use it, but I was evaluating an entirely new concept of backing ma-

terial for a pressure-sensitive tape, and for that reason I answered "yes" to that particular question about
16 date of invention. As a fabrication man, to me that was a very substantial advance in the art, shall we say, a very substantial change of pace from all the prior art I knew anything about, my own prior art in masking tape, and in my mind it was a very important time in the development of cellophane tape, because I had broken away from precedent, I had never used a film material before, and to me that was something entirely new and different from anything I had done before.

. . . . . .

17 Q. I again ask you whether as of July or August, 1929, when you made these hand spreads, did you consider that you made your invention of the patent in suit, or didn't you? A. I think that I might answer that by saying that it was a substantial part of the invention.

Q. Then you mean by that you had not made your invention at that time? A. I don't think the invention was complete as described in this patent, 2,177,627, because those hand spreads did not carry a transparent pressure-sensitive adhesive, but the concept of a transparent film, non-fibrous, was so much of a change of pace that in a certain sense I would say that that was a very substantial part of the invention.

Colloquy

(Record pages 43 et seq.)

43 Mr. Morris: Well, I have a whole bunch of them here, and I will give them to you. You can mark them and then there won't be any question of the identification. I have a whole box load of them here. You can

have any of these that you want. It is marked on the outside of the box what it is. These are samples of all the tapes we are now making. Will that solve your problem?

. . . . . .

44 Mr, Haight: Well, do you have any sample of the rubber-resin adhesive tape such as referred to in paragraph 5 of the agreed statement of facts, Defendant's Exhibit B?

. . . . . .

Mr. Morris: It is supposed to be in here.

Mr. Haight: Well, your Honor, I don't know if we can get what we want without those witnesses. For example, here is one (indicating). Is this synthetic?

Mr. Morris: I don't know.

Mr. Haight: Or is this rubber-resin?

Mr. Morris: I don't know. I just don't know those things, but if you think they are put them in now. I haven't any question that they are authentic. I will have the witnesses later check on them and if they say OK then there won't be any question about these matters, and in the meantime you can go on with something else. The witnesses can positively identify them, or Mr. Shalita can by
45 taking one look at them, and if that is so, why they can just be marked in. I haven't any question that it is the usual type.

Mr. Haight: Well, is that rubber or is it resin?

Mr. Morris: I don't know.

. . . . . .

Mr. Haight: Well, perhaps we had better just get the witness on that.

Mr. Morris: Yes.

Mr. Haight: However, perhaps we should let the record show that these two types are so similar that none of the lawyers can tell the difference.

Mr. Morris: Well, what the lawyers can tell as to that is no test of anything.

. . . . . .

46 Mr. Morris: I will definitely have somebody here who can testify to that, your Honor.

The Court: Who can identify these various tapes you mean?

Mr. Morris: That is right.

Defendant's witness **Hubert James Tierney.**

(Record pages 47 et seq.)

Direct Examination

By Mr. Edward A. Haight:

47 Q. Will you state your name, please. A. Hubert James Tierney.

Q. Where do you live, Mr. Tierney? A. At 634 Goodrich Avenue, St. Paul, Minnesota.

Q. What is your occupation? A. I am vice-president in charge of tape manufacturing and research of Minnesota Mining & Manufacturing Company.

. . . . . .

48 A. I first entered the employment of Minnesota Mining & Manufacturing Company in about June of 1927, worked as an inspector in No. 1 and No. 2 making department. I worked in those departments through 1927 and '28, returned to the University of Minnesota in 1929, and received my degree in Bachelor of Science and Chemical Engineering in June of 1930, at which time I again entered the employ of the Minnesota Mining & Manufacturing Company. I worked from June 1930 to March
49 1931 in the abrasive research laboratory of the company. In March of 1931 I entered the research laboratory and have been continuously employed in the Tape Division since that time, since March 1931.

Q. And in about 1934 you became chief chemist in that division, is that correct? A. Yes, sir.

Q. And then in 1943 you became tape product manager with technical control of the manufacture of all the tapes? A. Yes, that is right. The technical control was also a part of my responsibilities as the product manager.

Q. And then in 1948 you became the manufacturing member in charge of manufacture of all tape, is that correct? A. That is right.

Q. And then you became a vice-president in 1952? A. That's right.

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50 A. Yes. When I entered the company in 1927 there were approximately 12 to 15 persons in the whole Tape Division at that time.

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In the laboratory at that time, in 1927, I believe that there were only about four or five persons. Dick Drew was in

charge of the laboratory. Grant Merrill, Gil Gehrenbeck, and Al Wartha, and Mr. Livermore, were the others.

Q. By Dick Drew you refer to Richard Gurley Drew, the patentee, the inventor of the patent in suit? A. Yes.

51 Q. How long did he continue in charge of the laboratory? A. Mr. Drew continued in charge of the laboratory specifically from the organization standpoint up to the point where I was made tape products manager, but he has always been regarded as the main chief or head of the tape technical matters.

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54 A. Well, these types of smooth, dense, lustrous surface, non-fibrous films, were very difficult to seal
55 with the ordinary types of adhesives that were commonly used in the packaging field up to or at that time. Now those adhesives were glue or dextrine or silicate types of adhesives and had a water medium in which to keep them liquid or dissolved. These types of waterproofed cellophane, on the other hand, had waxy types of surfaces and being waterproof would not be wet by the glue type of adhesives. Accordingly, when attempts were made to use glue in sealing those films on the waterproofed cellophane, the glue would not adhere and the person did not have a satisfactory seal. Now, on the other hand, in the attempts to use the unwaterproofed cellophane, when the water was applied to the so-called unwaterproofed cellophane or normal cellofilm, the water would produce pronounced shrinkage and bad cockling or warping of the seal would result.

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59 The Witness: That paragraph (p. 1, col. 1, lines 41-51) of the patent points out the distinctive difference of this type of adhesive as contrasted to the heat-

activated type, for example. The heat-activated adhesive is one which obtains its adhesion character solely through the application of heat to the adhesive. In other words, it becomes soft, thermo-plastic and adhesive by being heated. There are other types of adhesives, For example, the solvent-activated types of adhesives, and they were commonly used at that time and are so today. Those kind of adhesives obtain their adhesive character by wetting the adhesive by either water, like you do with the postage stamp, or with solvents and various types of organic solvents, gasoline, acetone or other wet solvent activating means. In that specific paragraph the patent points out that this disclosure has nothing to do with that kind of adhesive tape. This disclosure has to do with the normally tacky and pressure-sensitive type. It is normally tacky at normal temperatures, and it is pressure-sensitive, and those terms have become widely accepted and descriptive of that type of adhesive that has its adhesive character by mere application to the surface without the use of other activating means such as water, heat or the like.

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62 Q. Now, in order to explain cohesion and adhesion and what those terms mean, have you had some examples prepared in which the coherence or adherence varied from that in Defendant's Exhibit B, for example? A. Yes, I have, and I think they will help to clearly bring out that very important condition that must be present in this adhesive if it is to perform satisfactorily for the packaging uses that Mr. Drew described in this patent.

Q. All right, will you first just state what coherence is. A. Coherence means the force of adhesion or attraction for the particles of the adhesive to themselves. In other words, it is the internal strength of the adhesive, the force of

attraction of the parts of the adhesive for each other, which is referred to as cohesion.

Q. And what is adhesion? A. Adhesion, on the other hand, is the force of attraction of the adhesive towards dissimilar surfaces. For example, if the adhesive is placed on glass, the glass is a different composition than the
63 adhesive and the force of attraction of the adhesive for the glass illustrates adhesion, namely, the adherence of the adhesive to the glass surface.

Q. All right. Now will you produce an example or examples where you can illustrate the importance of having strong cohesion or having a unified adhesive coating. A. I have in my hand now some normal cellophane film that has been coated with a transparent sticky adhesive in which the adhesion is very high and the cohesion extremely low. As I attempt to unwind that half inch strip of cellophane that has been coated with this type of transparent adhesive, you will notice that the elastic strings of that transparent adhesive are stretching out at least two to three inches. Part of the string is remaining anchored to the surface on which the adhesive in this instance was originally coated, and the other part of the elastic string is remaining adhered to the back side or the underside of the cellophane backing to which this adhesive was just attached. You will notice that the back side of the backing has an adhesive deposit on it. This example, therefore, illustrates a
64 type of transparent adhesive that does not have the proper balance of adhesion and cohesion or the proper balance of elasticity and stretchiness, the balance of all four of those properties that should be present for the adhesive to perform satisfactorily for the uses mentioned as the objects in the Drew patent 2,177,627.

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If an adhesive of this type is placed, for example, on glass, and then removed thereform, you will notice the removal of this strip leaves a sticky adhesive residue on the smooth surface of the glass. Now there are other examples that will illustrate that character in different degrees. Here, for example, is another roll that is not quite as much like fly paper as the example that I just showed. However, again cellophane has been utilized as the backing, that is, the normal unwaterproofed cellophane, and again that characteristic of this type of adhesive, namely, the normally tacky and pressure-sensitive type that we are talking about in the patent, stretches out upon removal from the back side of the cellophane to which it has just been in contact. You will notice that there is not as much tendency in this instance for that adhesive to offset, although again there is some, and the adhesive is stretching out like in the last instance. It is not as much like flypaper although there is bad oozing on the edge of the roll, and when the person attempts to handle this material they get their fingers pretty badly stuck up.

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The Witness: Yes. This is a transparent type of adhesive in which the cohesive strength is lower than the adhesive strength.

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66 A. (Continuing) Now here again is a further example of cellophane coated with a transparent adhesive. In this instance, unwinding the roll also leaves part of the adhesive on the back side and part on the surface to which it was just attached. In other words, there is extremely bad offsetting of the adhesive, in this instance from the side on which it was originally coated. The elastic strings show the condition that those in the tape art refer

to as a pasty condition, one where the cohesive strength is not as high or higher than the adhesion strength. These three examples were purely for the purpose of illustrating that you can have transparent self-sealing types of adhesives that fail to have that proper balance, and if
67 they do not have that balance, it will leave adhesive residues on the smooth surfaces to which the adhesives are attached.

Mr. Morris: May we have those three marked for identification?

The Court: Yes.

Mr. Morris: So that we will have them so marked when I cross-examine.

(Marked Defendant's Exhibits D, E and F for identification.)

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122 The Witness: I have just finished applying a strip of this green tape from Exhibit S onto the surface of plain 600 normal or unwaterproofed cellophane. By removing that as you would by peeling it away from a roll, there has been no tendency for that adhesive to offset. Now I can reverse that procedure and have the part that is dry pull that adhesive away from the strip that I just took from Exhibit S, and by further reversing it I can show that the strip of tape from Exhibit S again removes from the normal cellophane without showing any tendency for the adhesive to offset. Now, remember that in this instance the adhesive has been clinging to a plane flat surface of identical area, and that when I reverse and pull the sheet of 6-inch width normal cellophane from the tape, that cellophane had the disadvantage of having its surface come up

against the dry adhesive; and you will notice that in that instance the contact of this 6-inch width sheet of normal cellophane, with that dry adhesive surface, is not 100 percent equivalent because there are a few air bubbles. But despite that fact the angle effect is such as to enable
123 that to pull it away from the half inch strip on which the adhesive was originally coated.

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140 The Court: Mr. Tierney, I would like to ask you the same question that I asked Mr. Cohen.

The Witness: Yes, sir.

The Court: Is there any means you have of identifying that tape as 3M tape, other than seeing its content or that there are some markings on the core?

The Witness: Well, it is on the plastic core, the
141 tape, and I secured it and I know that it is our commercial manufacture.

The Court: There is no doubt or there is no question in my mind as to that, but I really wanted to find out for my own edification as to it. For instance, if I gave you two pieces of tape, this particular sample, and a piece of tape that I just picked up indiscriminately and being something that was admittedly manufactured by Tech Tape, could you or could the buying public distinguish between them?

The Witness: The buying public certainly could not. In fact, I could not without a rather exhaustive chemical analysis, and even after the chemical analysis I don't know whether I could distinguish between the "Tuck" rubber-resin type of transparent cellophane tape and the Minne-

sota Mining rubber-resin type of transparent cellophane tape, and I doubt whether one could distinguish between the two.

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151 The Witness: Now, those ingredients may be mixed with a solvent according to the method described on page 3, column 2, method A or method B, and this gives a liquid transparent adhesive. The transparent adhesive resulting from the mixture and solution of those ingredients in the proportions as indicated in example C of the patent were then coated on plain, normal, unwaterproofed cellophane and by the knife-coating method as referred to on page 5 of the patent, column 2, at about line 40 and further on at that point.

Q. Mr. Tierney, do you have an example of such a tape produced from the ingredients which you have just identified? A. Yes, I do.

Q. Now, this is the sample which you produced in order to have a sample available here for this trial, is that correct? A. It is. I now hold in my hand a roll of trans-
152 parent cellophane film-backed pressure-sensitive adhesive tape, made according to the formula of example C of the patent. I have just unwound a strip roughly about 15 inches long, and it will be noticed that there is no tendency for the adhesive to offset onto the backside of that cellophane. Now, this cellophane was not primed. The adhesive was coated directly onto normal cellophane film. I again place the tape on this heavy 2½ pound glass, showing that it will lift it off the surface and upon removing the tape from the surface there is no adhesive residue that remains. It will pick up this second glass plate by just lightly touch-

ing it to the surface. Again upon removal from the surface there is no adhesive residue remaining on the surface.

Mr. Haight: I ask that that roll of tape to which the witness has just testified be marked for identification as Defendant's Exhibit EE.

(Marked Defendant's Exhibit EE for identification.)

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162 The Witness: Now, that adhesive, Example E, was reproduced and the adhesive coated on plain transparent unprimed normal cellophane film, knife-coated according to the procedure at page 5 of the patent, and
163 I now hold in my hand an example of such tape that has maximum transparency as indicated by Drew or the patent, and again placing it on this plate it holds it well supported without any tendency for that adhesive to offset, or any adhesive residue remaining on the surface of the glass plate. Now, that is the 2½ pound glass plate. Again just lightly touching it on to this other glass, again it picks it up without any pressure on the tape at all but causes it to adhere to that surface of the smaller glass plate and there was no adhesive residue remaining on the back side of the cellophane as I unwind that roll of tape, this Example E adhesive of the patent on unprimed normal transparent cellophane.

Mr. Haight: I ask that it be marked as Defendant's Exhibit KK.

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165 Q. Now the patent continues at page 3, column 1, about line 55, and I quote—I wonder if maybe it would not be better, Mr. Tierney, to ask you to explain the portion beginning on page 3, column 1, line 55, way over

to the top of the second column, line 3, reading such portions as are appropriate. A. Starting with line 55, there, it is indicated that the rubber base and the resin base determine the tackiness exhibited by the finished product. That relationship of the rubber and the resin together, coupled to a certain extent with the treatment that
166 is given to the rubber, determines the adhesive character of the adhesive. Now reference was made to milling the rubber. Rubber is a high molecular weight organic polymer built up of the structural unit of isoprene. When you mill the rubber you break down the molecular weight or you decrease the molecular weight to a certain extent, and that tends to increase the tackiness. It is further pointed out there, that is, line 64:

"the greater the quantity of the tack producing phase"—

and just previous to that is indicated that tack producing phase in this particular example is the resin and the paraffin oil, if it is utilized, it is indicated there that the paraffin oil can be eliminated—

"that the greater the quantity of the tack producing phase that is added to the rubber, the greater the tackiness exhibited in the rubber base adhesive."

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168 Q. Now will you continue, and perhaps you had better read in part on line 60 to about 73 of column 2, page 3, and first state in general what subject matter does this bring up. A. This section of the patent has to do with the indication of the use of a primer where it may be desired to use a primer. I will read from the patent, starting at line 60:

"Where considerable unification is desired between the adhesive layer and the backing material, to assure proper anchorage of the adhesive layer with the backing material, thereby assuring satisfactory unwinding or separa-

tion when the composite is formed into rolls or stacks, it is preferred to first coat the sheet of gelatinized cellulosic material with a priming composition."

Now the primer acts as a factor of safety in improving the force of anchorage of the adhesive to the transparent film.

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173 Mr.Haight: I will ask that it be marked for identification as Defendant's Exhibit LL.

(Marked Defendant's Exhibit LL for identification.)

Q. Can you demonstrate that roll. A. I have just
174 placed it on the surface of this small glass without any pressure whatsoever and it has picked the glass off the surface of the table here. As I remove it from the surface again, there is no adhesive residue remaining on the glass. There is not the minutest trace of an adhesive residue remaining on the back side of the cellophane as I unwind this tape. I believe Mr. Shalita just examined the roll. Do you care to examine it again?

The Court: What is that?

Mr. Haight: That is example C.

The Court: Example C, made with a primer.

The Witness: Yes.

Mr. Haight: With the primer.

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Cross Examination

By Mr. Morris:

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202 Q. When Drew filed his application for the patent in suit, the adhesive was well known, wasn't it? A. Yes, it was.

Q. There was nothing new in that? A. Adhesives that had, of themselves, this area of normally tacky and pressure-sensitive character were known and in use years before this Drew patent was initially filed, yes.

Q. And the cellophane was old, too, that was known? A. Yes.

Q. Drew didn't have anything to do with making cellophane? A. No.

Q. So we had both of those elements of the patent, the adhesive and the cellophane, old in the art before Drew came into the picture. Now are we to understand from
203 your testimony this morning, your analysis of the examples, that the trick of the thing or the art of the thing lies in getting exactly the right adhesive before you come out with this type of tape that we all want and that the Drew patent is talking about? A. You cannot get the article or the Drew patent if you have an adhesive, for example, where the cohesion is lower than the adhesion. I think that was what was intended for only illustrative purposes in those first examples, I think the Exhibits D, E and F that were shown, purely for illustrative examples of the adhesives that did not possess the physical character comparable to the physical character of the adhesive example C or example E.

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287 The Witness: This is waterproof surgical tape that came on the market commercially in the U. S. about 1937 or 1938 or 1939. It picks up a light weight, so it is a normally tacky and pressure-sensitive adhesive, as I have admitted. What it shows I don't know, because this commercially is a product that was not on the market

288 in 1931. We have an example of unwaterproof tape that was on the market in 1931 and at about 1936 or 1937—and I shall be glad to conduct the tape if you so desire.

Mr. Haight: That is Exhibit 12, I believe, isn't it?

Q. This Exhibit 11, it did the job as well as the 3M cellophane tape, didn't it? A. Approximately as well on this light glass plate, yes.

Q. Well, let us just, for the sake of interest here, try and see what it will do on this other glass plate. I haven't any idea, but you try it. A. All right.

Q. Not that it makes much difference. A. All right.

Q. You had it stuck to the paper down there, didn't you? A. Well, I will try it again.

Q. Yes. A. I will try it again.

Q. All right. A. Just a minute now.

Q. Take it lightly now and don't yank it up that way. A. Well, would you care to remove it for me?

289 Q. No. I would rather you do it. A. Is this satisfactory the way I am unwinding the roll?

Q. I think it is admirable. Now lift it easily and don't jerk it. A. No.

Q. It does not lift it, does it? A. It does not move the plate.

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296 Q. Was this adhesive tape (PX-12) that was on the market in 1931? A. Yes, that is an example of unwaterproofed surgical tape similar to what was on the market in 1931.

Q. Tape a piece of that off and try that in the same way we have been trying these other pieces.

The Court: Take it about the same width.

A. This is a 3-inch width, but we can try it even on the 3-inch width and show that dropping that 3-inch
297 width on this lightweight glass plate there is no immediate adherence such as to adhere to that lightweight glass plate. I can put even the 3-inch width on this heavy glass plate and rub it down and pull it up the same way, even the 3 inches will not move the glass plate. This is the unwaterproofed type of surgical tape.

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311 Q. So when you take this adhesive which was old in 1929 because it was being used on masking tape, and you take that and coat it on a masking tape backing and then also coat it on a cellophane film in a similar manner, you would simply come out with what you would naturally come out with, dependent upon the backing that you use, isn't that right? A. You come out with a masking adhesive on cellophane backing. You don't come out with a transparent cellophane film backed tape nor do you come out with a colored cellophane film backed tape.

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322 A. But you take on page 3 of the patent (1,760,820), an elaborate description is given of the method of treating that paper with glue and glycerine solutions, for example, so as to cement or bond those fibres together, so that when the pressure-sensitive adhesive is coated on the surface of the treated paper and that composite wound up into roll form and subsequently unwound, the paper will not split; that is, the fibres will not split apart and be deposited on the surface of the adhesive.

Q. And in that way the fibers will be covered to a degree by the glue and glycerine? A. Well, he points out very specifically in the treating of the paper that one should definitely avoid an excess, and he points out there
323 that crepe or bibulous toweling is the preferred type of paper for this backing for masking tape. Now that type of paper has not only a very porous surface but it also has the additional advantage of the high points of the crepe helping to minimize the area that the pressure-sensitive adhesive back has when it is in roll form, so that the unwinding effort in unwinding a roll of crepe paper masking tape is minimized as a result of the adhesive only contacting the high points of the crepe on the back side of the treated toweling paper.

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336 Q. So on the surfaces of the parchmentized paper when completed you would have a cellulosic smooth gelatinized material? A. No, you would not.

Q. Well, what part wouldn't you have that? A. You could readily detect what the surface of your paper is by looking at it with a magnifying glass or a binocular microscope. You would have apparently a rough and porous surface, certainly rough and porous persenting a large area as contrasted to the smooth lustrous glasslike surface of cellophane. Now that can very readily be seen by using a microscope of only about 15 or 17 diameter magnification. As you will look at the paper under a microscope, that paper looks very much like it is a shredded wheat biscuit, or like these biscuit wafers that are utilized with cheese or with hors d'oeuvres, and you notice that appearance only at 15 or 17 diameter magnification, where it
337 can be readily seen. And that appearance will show up with some roughness not quite as far as the shred-

ded wheat biscuit offers, but it will show up on parchmentized paper, the commercial type of parchmentized paper.

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340. Q. If you as the expert that you are were standing over my shoulder and looking over my shoulder in the laboratory and I had a piece of this parchmentized paper of which Drew speaks in his masking tape patent, Exhibit 18, and I had a piece of normal du Pont cellophane, and I took some adhesive from a container and spread it on the parchmentized paper and then I spread the same adhesive on the cellophane, would you as an expert say that I was using backing of the same class of material? A. No, they are not the same class of material.

Q. All right. A. One is a paper and the other is a transparent film. One has no fibers in it at all. It has glass-like surfaces. Paper, parchmentized paper,
341 has rough surfaces as you can see and anybody else can by looking at it with relatively low magnification, and it presents a great deal of area for the adhesive to hang on to, not the same problem as trying to get an adhesive to hang on to smooth glasslike surfaces. It is about like a plasterer who tried to plaster on the surface of glass. He has to use a metal lath or something for the plaster to dig in and get mechanical anchorage.

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469 Q. Now, Mr. Tierney, in the patent in suit the Example A adhesive has a greater amount of rubber than it does resin, doesn't it? A. Yes.

Q. And in Example B there is no added resin other than that which is included in the Mexican or wild rubber; that is true, isn't it? A. Yes.

Q. So that Example B, leaving out the zinc oxide pigment, is essentially a rubber solution? A. No, it is a solution of rubber along with resin, because wild rubber contains a high amount of resin content; that is, the Mexican type of wild rubber.

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358 Mr. Morris: Now, your Honor, it will be just as easy for me to read this stipulation in at this point and if there is no objection I will do that.

The Court: All right.

Mr. Morris: (Reading) ". . . For a substantial period of time prior to the grant of the patent in suit, Minnesota Mining placed patent markings on its cellophane pressure-sensitive tape, transparent and colored, under the designation 'Made under one or more of the following United States patents,' or some similar designation; that upon the issuance of the patent in suit that patent was added to
359 the group of patents included in that marking; and that a couple of years later, generally in or around the year 1942, Minnesota Mining then discontinued the prior practice of using the same patent markings on all patented tapes and created a plurality of classes of patent markings, and at that time a whole group of patents which had previously been included on the cellophane tape were dropped from the patent markings. Among the patents included in the aforesaid markings from the time prior to the date of the issuance of the patent in suit until a couple of years after its issue, was the masking tape patent, Patent No. 1,760,820 or its reissue, number 19,128."

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470 Q. All rubber has some resin in it, doesn't it, all natural rubber? A. It is referred to as resin, yes.

Q. So in Example B the amount of rubber is greater than the amount of resin? A. Yes.

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Q. Do all crops of Mexican rubber have the same amount

of resin in them? A. No, but all of them have considerably more than the East Indies type of plantation rubber.

Q. How much does that have in it? A. The East Indies type of planation rubber I believe has no more than about 2 to 3 per cent.

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697 Q. Will you explain, then—I don't understand it. I would like to ask you this question, if I may be permitted. Will you explain how there is a different surface area between the two sides of the creped paper of the masking tape as compared with the two sides of the cellophane tape that is used in making the pressure-sensitive adhesive tape by 3M? A. In the manufacture of creped toweling paper, one side is what they call the crepe side and the other is the towel side. One side has somewhat higher ridges than the other side. Now the significant point is that in coating the liquid pressure-sensitive adhesive on one side of the treated paper, the treated toweling, for example, the wet adhesive solution contacts every bit of the fibrous surface area of the face side and then that solvent is evaporated as the tape is placed through the drying oven, and when it comes out of the drying oven and is wound up in the jumbo roll the adhesive, the dry pressure-sensitive adhesive, and by that I mean the pressure sensitive adhesive solids that have had the solvent completely removed, contacts the back side of that paper, but it does not flow into the toweled back side area of the paper. Now in the case of the cellophane the two surfaces are identical;
698 and on a great majority of the cellophane rolls the adhesive area that is in contact on the face side is exactly equal to the adhesive area that the back side presents. There is no difference in area in that instance. There is no chance to get the advantage on one side in contrast

to the other. In the case of the creped paper masking tape there is a vastly different thing involved. You have much greater surface area of the face side that the wet adhesive contacts. And, then, to add additionally to that, the dry pressure-sensitive adhesive does not contact one hundred per cent of the area on the back side of the paper because it can't do it. And it can be easily shown by unwinding the roll of the crepe paper masking and you can see where the adhesive has been in contact with the back side and it is visible. In fact, you could take the crepe paper masking tape and press it against a sheet of carbon paper and peel it away and see that the adhesive has not been contacting the toweled area of the back side of the paper masking tape.

* * * * * * * * * *

Excerpts from Plaintiff's Exhibit 28

Deposition testimony of **H. J. Tierney** as an adverse witness.

(Record pages 3506 et seq.)

3506 "Q. You are familiar with the United States Kronstein patent 1,944,562, are you not? A. Yes, sir.

Q. Do you have a copy of it there with you? A. I think I do.

Q. That patent discloses the use of cellophane as part of the article that is described in the patent, doesn't it?

3507 A. Yes.

Q. It also discloses a rubber-like, stretchable, water-insoluble insulating material united to one side of the cellophane, doesn't it? A. It discloses a number of

things that he indicates as suitable for producing the article that his patent has reference to, yes.

He describes a great number of materials that adequately satisfy and produce the article he describes in this patent, which is pertaining to electrical insulating material, and which by his disclosure is an improvement on the varnished cambric type of material that has been utilized in the industry as insulating material.

His procedure, he states, improves on the previously known varnished fabrics by placing the electrical insulating varnishes or coatings of cellulose acetate on cellophane rather than by placing such coatings on woven fabrics, such as had been previously the prior art procedure.

He does mention that rubber and varnishes have been commonly utilized as electrical insulating coatings,
3508 and rubber, vulcanized rubber, is certainly stretchable.

He indicates that such coatings as he has reference to should be 'moreover oilproof' in producing the product that he describes.

Now that reference from his patent appears on page 2, column 1, lines 17 and 18, where he says:

> 'The product obtained in the manner described is moreover oil-proof'."

* * * * * * * * * *

3518 "Q. Going back to the Kronstein patent, No. 1,944,562, on which you were interrogated, in your opinion would a mixture of slow drying varnish and rubber, even though tacky for some time, have a stable degree of tackiness? A. It definitely would not have a stable degree of tackiness or pressure-sensitive adhesiveness; and I believe that the Kronstein patent where he utilizes the

3519 term 'any desired degree of adhesiveness' is broadly referring to the fact that liquid cements can vary in their degree of adhesiveness or, like a dry postage stamp, can vary in its adhesiveness depending on the amount of moisture or solvent that is present with the adhesive; for, on page 2, column 2 of this same Kronstein patent, No. 1,944,562, in the section beginning at the bottom of column 1, page 2, he states:

> 'and it may be employed moreover for the manufacture of finished articles, such as electrically insulating tubes and other pieces of insulation, which latter, may for instance be worked into finished articles by pasting layers of the cellulose composition with a liquid insulating material, such as adhesive insulating varnish, or by a solution of artificial resin or the like,'—

Now there he very evidently refers to using a liquid type of adhesive material.

Q. You used the phrase 'having any desired degree of adhesiveness'. That is found in the Kronstein patent, is it not? A. Yes, it is.

3520 Q. And where in that patent? A. On page 2, column 1, line 39.

Q. Speaking of the same Kronstein patent, would the product there have more cohesion than adhesion at any time when it is markedly tacky? A. While the adhesive material that he has reference to is tacky its cohesiveness would definitely be lower than its adhesiveness. In other words, it would be similar to the cellulose acetate China cement, that is, where cellulose acetate is dissolved in amyl acetate and before it has completely dried, the wet tacky adhesive material may be used for cementing things together. When that adhesive material is tacky its cohesiveness is less than its adhesiveness."

. . . . . .

Testimony of **Kenneth E. Penney**, called as a witness by Minnesota.

Direct Examination

By Mr. M. K. Hobbs:

3529 Q. What is your profession? A. I am manager of audio and visual services for Minnesota Mining & Manufacturing Company.

3530 Q. Does that have anything to do with photography? A. Yes.

* * * * * * * * * * *

Q. Ever since that employment have you been the head of the photographic department? A. Except for a short period at the beginning, less than a year, yes.

* * * * * * * * * * *

Q. Have you had various jobs or positions taking pictures? A. Yes, sir.

Q. What was the first one? A. The first major one was the DeKalb Agricultural Association at DeKalb, Illinois.

Q. Did you in that job take microphotographs? A. Yes.

* * * * * * * * * * *

3531 Q. And then what was your next job? A. With Twin City Ordnance Plant.

Q. Was that a Government job? A. That is right. It is a Government plant, operated by a private individual, yes.

* * * * * * * * * * *

Q. Did you have occasion in either of these employments to use a microscope? A. Yes, I have.

Q. And to make microscopic pictures? A. I have.

Q. Now after the Twin City Ordnance job, what was your next job? A. With Minnesota Mining.

3532 Q. And you have been there since 1944? A. That is correct.

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Q. Are you a member of any organization or association that has to do with photography? A. Yes, I am.

Q. What is it, please? A. It is the Industrial Audio Visual Association.

Q. Are you an officer in that organization? A. Yes, I am.

Q. Mr. Penney, in or about the year 1945 you took some pictures for use in the suit of Minnesota Mining & Manufacturing Company vs. International Plastics Corporation; those pictures were to show the surface characteristics, the topography, if you please, of surfaces of various materials. Do you still have those pictures? A. I have a set of them, that is correct.

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3534 Q. Well, was the subject of which you took the picture, the specimen, magnified? A. Yes, sir.

Q. By what means? A. By using a microscope, microscopic lens, extension bellow.

Q. How great was the degree of magnification? A. Approximately 40 times.

Q. Were these stereopticon or 3-dimensional pictures that you took? A. They were.

Q. What is the meaning of the expression 3-dimensional pictures? A. I believe it would be easier to describe it if I would say that an ordinary flat surface photograph has

length and width. The 3-dimensional photograph also has depth to it, if used in the proper machines.

Q. What is the purpose of taking a 3-dimensional picture?

3535 A. Are you referring to these that I have taken?

Q. Any 3-dimensional picture. A. To show the third dimension, the depth to it.

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3539 Q. Mr. Penney, Mr. Morris just said that this was an optical illusion, so that leads me to ask you is normal vision, normal binocular vision, stereoptical? A. Normal binocular vision is stereoptical.

Q. And that is the way people see, isn't it? A. That's right.

Q. And that is why we have two eyes, isn't it? A. Correct.

Q. So that we can see a subject from two different points of view? A. That's right.

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3553 Q. Now, have you taken some more stereopticon slides more recently, Mr. Penney? A. Yes, I have.

Q. And they were of what? A. They were of Patapar vegetable parchment.

Q. And what else? A. Normal cellophane.

Q. How many slides altogether? A. I have three slides, sir.

Q. Two of the parchment and one of the cellophane? A. Correct.

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3559 Mr. Hobbs: Now if the Court please, that finishes our exhibition of these slides. I want next to have the witness use the microscope on one or two specimens. It takes some time to set that up of course. I don't want to suggest that we close now, but if it is the desire of the Court—

The Court: We can come back after dinner.

* * * * * * * * * *

3561 Q. Now, Mr. Penney, when you get something ready for observation there, you let us know, and please don't let us hurry you. A. I am ready with a piece of parchment now.

Q. Let me ask you a question or two first before the testimony or the demonstration begins. A. Yes, sir.

Q. This is the microscope that you rented in the City of New York for the purposes of this suit? A. I did.

Q. Where did you rent it from? A. At the Atlas Surgical Company.

Q. And is this microscope of such a kind that two people can look at the subject at one time? A. Yes, sir.

Q. Now, what magnification does it have? A. At the present time I have an 80 magnification.

Q. Can you increase that? A. I can double that to 160 magnification.

Q. Well, I suggest now that we look at the present specimen in there which you say is parchment from Plaintiff's Exhibit 21, the vertical edge under the 80 power magnification. A. Yes, sir.

* * * * * * * * * *

The Court: We can both look at it.

The Witness: That's right. Right through here, Mr. Morris. You can correct this eyepiece if you wish, Mr. Morris, for your own eyes, without the glasses.

Mr. Morris: What is this thing here?

The Witness: That is a piece of parchment.

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3564 Q. Did you find an unevenness in the surface there that you can point out? A. Yes.

The Court: It is a marked unevenness.

The Witness: You see this edge right there is the edge referred to.

The Court: The edge on both sides all along.

The Witness: You might be able to adjust this and probably bring it in better sharpness for you.

The Court: I think I see it well.

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3573 The Court: Yes, and Mr. Penney, we will call him the x-ray technician and Mr. Tierney we will now call him the MD, and he is now going to tell us what there is or give his views anyway.

Mr. Morris: Yes.

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Testimony of **H. J. Tierney**, recalled as a witness by Minnesota.

Direct Examination

By Mr. Hobbs:

Q. Now, Mr. Tierney, will you state on the record what you have seen as you looked through this 80 power microscope, at the vertical edge of a piece of parchment from Plaintiff's Exhibit 21?

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3574 A. I see that both surfaces of the parchment paper are noticeably jagged and rough. They definitely could not be described as smooth like the surface of glass, for example. Associating this particular cut edge, showing with the surface view, which I believe you plan to show as the next example with this same particular microscope—

Q. That is right. A. —and having that associated with this cut edge view the mind tells you that some of those jagged projections that you are looking at are fibers at the surface of that parchment paper.

Testimony of **Paul Shalita**, recalled as a witness by Technical.

Cross Examination

By Mr. Haight:

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3593 The Court: So that roughly with a quarter of an inch square area we saw quite a lot of irregularities, didn't we?

The Witness: Yes. The roughness, the up and down to it, yes, your Honor.

The Court: As compared to a piece of cellophane which we didn't see on its edge but which we saw on a flat
3594 surface, or as compared to a piece of glass, which we didn't see, but under the machine—but I imagine on the machine it would likewise be smooth; it is a relatively rough piece of paper, isn't it?

The Witness: In comparison to the two.

The Court: Yes. It is relatively rough.

The Witness: The parchment appears to be rougher because of—

The Court: Not appears to be rougher, but it is actually a very rough piece of paper. It is like having a flat piece of glass in your hand and a broken piece of glass with a lot of jagged edges, isn't it?

* * * * * * * * * * *

3650 Q. Now we have a little strip of cellophane here, here is a strip of your cellophane, and I am going to ask you to analyze that surface. Do you know what a brush analyzer is, by the way? A. It is an experiment for measuring highs and lows.

Q. That is, you have a little needle with a diamond point that you run over a surface and you just, at periodic intervals, measure the high as against a normal or standard? A. I don't know the mechanics. I have heard of the brush analyzer.

Q. Since we don't have one in court, I have got a
3651 home-made one here. Here is a match with a needle in it. Have you ever analyzed the surface of a material using a needle? A. In what way do you mean?

Q. Well, I am going to show you here first, then I will

ask you to do it. Now I am taking off a piece of parchment from Defendant's Exhibit 21, and then I have got a piece of cellophane; I am holding the edge at the top and I am going to take this needle now, which is stuck in a wooden match, and I am going to hold it lightly so that any vibrations that come from this cellophane that I am now stroking with the needle will be transmitted to my fingers; and I feel none. You hear no noise, do you? Now I am going to do the same thing on the parchment. Do you hear that scraping sound? A. Yes.

3652 Q. Now I will ask you to do it, first with the cellophane.

(The witness complies.)

Q. Now I will ask you to do it with the parchment.

(The witness complies.)

Q. Do you hear the sound on the parchment and not on the cellophane? Is that right? A. I do.

Q. Did you, in your fingers, detect a vibration as you brought that needle down on the surface? A. Yes, I could feel some vibration.

Excerpt from Plaintiff's Exhibit 181-T

Durex Opposition to Rado German Application 75,969

R. 75,969 / 47f 16 March 1933
RADO

To the German Patent Office

On behalf of the Firm Durex Abrasives, Inc., Dusseldorf-Reisholz, the attention of the German Patent Office is directed . . .

Excerpts from Plaintiff's Exhibit 189-T

Durex Opposition to Rado German Application 75,969

R/Fr. 11 November 1933

R. 75,969 XII/47F To the
RADO German Patent Office

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We should like to point out that the application has subsequently been broadened in a form which is not admissible. The original application shows in Paragraph 2 the indication of rubber solution merely as an adhesive substance for the adhesive tape. But when we turn to the description of a "suitable adhesive substance" in the third paragraph, we suddenly find that this term does not mean an adhesive substance to be used for the fixation of the sealing band to the said tubes and hoses; quite contrary there is the indication of an intermediate layer of adhesive substance for internal firm coherence within the band itself, especially for strong unification with the reinforcing bases of the band, regardless of whatever material these bases may be derived from. On the other hand the term "suitable adhesive substance" does not make sense at all. The suggestion of an unsuitable adhesive substance will hardly ever be presented by anybody.

If however the applicant is trying to do just this, then we have an improper broadening of the claim 1 on hand, when he for example states: "that the base of the *plastic adhesive substance*, as for instance rubber solution, is formed by a non-fibrous cellulose". Actually and originally the applicant revealed only one single adhesive substance, that is the rubber solution, and this compound is no "plastic" adhesive substance in its exact technological meaning.

Every adhesive substance has indeed to be plastic at the moment of adhesion. Those skilled in the art will consider only those adhesives as plastic which nowadays fall under the category of continuously adhesive substances and which stick by simple pressure. Rubber solution however does not belong to this group as the normal solution will lose its solvent agents by volatilization rather quickly, and hence will be deprived of its adhesive quality; this fact is for example well known to every bicycle rider.

The supplementarily broadened application presents a rather well-plotted attempt to have items protected which never were part of the applicants invention.

Excerpts from Plaintiff's Exhibit 190-T

Opposition to Rado German Application 75,969 by Durex (incorrectly labeled "Minnesota")

April 28, 1934

R. 75,769 XII/47f XI B. 307/33 To
Rado German Patent Office

. . . . . .

It has to be emphatically opposed that the applicant changes the subject of his invention after the publication at his own liberty.

His brief dated July 2, 1930 states very distinctly:

"The invention is expressly concerned with the detection of a revolutionary new field of application for this material which is especially the sealing of damaged tubes or hoses at leaking spots."

However, the applicant produces only one recommenda-

tion of an aviation group supporting the asserted advantage of the subject of his invention, where nothing is said on the sealing of tubes or hoses and merely the fact is mentioned that the invention product has been used instead of adhesive plaster, which, of course, creates a completely different situation.

The opposition against the change of the application contents has to be raised in another view.

In the original application records and later on too, the applicant considered as adhesive substance rubber solution only so that absolute identity with the adhesive of the French Patent 433,999 was presented. Then on January 22, 1931 the older Patent Application M 110,336 IV a/75c of the Minnesota Mining and Manufacturing Company was published. Very soon, that is on February 3, 1931, we find in the present application files, page 2, in the middle, the wording that rubber solution "or the like" could be used according to the application and the protocol of the hearing dated November 27, 1931 shows for the first time a plain reference to a "plastic adhesive substance".

There is no particular argument necessary that this constitutes a completely non-admissible broadening of the original meaning of the application considering the above given declaration of the applicant that his invention relates only to the use of a generally known material for the special purpose of sealing tubes and hoses.

Excerpts from Plaintiff's Exhibit 191-T

Rado German patent Application 76,554

Patent Application R 76,554 Published November 28, 1935
L. Rado Patent Office 730528 • 4 Nov. 1935
Berlin

SEALING-TAPE FOR SHEETMETAL PACKAGES

• • • • • • • • • • •

PATENT CLAIMS

1. Sealing tape for sheetmetal packages, where led and bottom is sealed by a tape, characterized by the fact that the joint between cover and container has been covered by a strip of non-fibrous skin of cellulose—commonly known for packaging purposes—using a known adhesive rubber solution.

Excerpts from Plaintiff's Exhibit 193-T

Opposition brief of Minnesota to Rado German patent application 76,554

June 9, 1936

To the German Patent Office

R. 76,554 XII/81c
Rado

Opposition: Minnesota Mining & Mfg. Co.

Supplementary to the opposition dated January 28, 1936, the following arguments are herewith presented after completed examination of the file of the application.

The presented description and claims of the above ap-

plication dated December 12, 1928, were distinctly limited to an adhesive tape which consists of a *metal foil* in conjunction with a non-fibrous, transparent cellulose skin.

Furthermore, the application was originally presented as an addition to the application No. 75,969 of the applicant; this original application was however, entirely rejected in the meantime by the Board of Appeals. The applicant admits in the original form of his present application that the subject of his older application was conventionally known but now desires to have the same subject protected according to claim 1 through 3 of his present application. The original form of the present application No. 76,554 presents as the only new feature the combination of a metal foil with a non-fibrous cellulose skin.

In the present application amended claims were presented on November 6, 1929, all of which were limited to the use of a metal foil in conjunction with a non-fibrous cellulose skin. That makes it therefore very plain that the originally submitted form of the application described merely a combination of a metal foil with a non-fibrous cellulose skin and that the applicant did not intend—as shown in the present application—to have an adhesive tape protected which is not limited to the use of a metal foil; that he did not intend to have said rights protected was even more evident as the older application, pending at that time, contained a description which did not relate to adhesive tape where the metal foil as an important part had been eliminated.

The check of the files laid open for opposition shows that again on August 22, 1930 amended claims were filed which relate to the use of metal foil in the same way. Heretofore the applicant revealed and claimed nothing but adhesive tapes with metal foil during the years 1928, 1929

and 1930 and thus also did not broaden the present application. Still on March 5, 1931 the advantages given by a combination of metal foil with non-fibrous cellulose were the subject of his presentation.

In view of the application No. 75,969 still pending at that time, the examination of the present application was suspended until 1934.

Now on December 12, 1934 the applicant filed amended descriptions and claims requesting that this present application be considered separately apart from the still pending application No. 75,969. *Here for the first time the claims were not limited to the use of a metal foil.* Thereby the present application is expanded essentially in contrast with the originally filed form; hence the examination board objected correctly on September 27, 1935 to this amendment as an inadmissible expansion of the original records on the basis of the fact that the original application was limited to the combination of a cellulose skin with a metal foil. The examination board requested consequently a corresponding limitation of the claims in the present application.

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Office - Supreme Court, U.S.
FILED
DEC 20 1957
JOHN T. [illegible], Clerk

IN THE

Supreme Court of the United States

OCTOBER TERM, 1957

No. 678

TECHNICAL TAPE CORPORATION,
Petitioner

vs.

MINNESOTA MINING AND MANUFACTURING COMPANY,
Respondent

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1957

No. _____

TECHNICAL TAPE CORPORATION,
Petitioner

vs.

MINNESOTA MINING AND MANUFACTURING COMPANY,
Respondent

PETITION FOR WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE SECOND CIRCUIT

Petitioner, Technical Tape Corporation, prays that a writ of certiorari issue to review the judgment of the United States Court of Appeals for the Second Circuit.

Opinions Below

The opinion of the District Court (R. 5869-96) printed in petitioner's Appendix A hereto, *infra*, p. 31a, is reported in 143 F. Supp. 429. The opinion of the Court of Appeals, printed *infra*, p. 1a, is reported in 247 F. 2d 343. The opinion of the Court of Appeals denying a rehearing, printed *infra*, p. 54a, is unreported.

Jurisdiction

The judgment of the Court of Appeals was filed on September 23, 1957, *infra*, p. 54a. Rehearing was denied on September 23, 1957, *infra*, p. 54a.

The jurisdiction of this Court is invoked under 28 U. S. C., Section 1254 (1).

Questions Presented

1. Whether it constitutes unclean hands in a patent case for a corporate patent owner which is the world's largest and dominant manufacturer of sticky adhesive tapes to make and consummate agreements with wholesalers (dealing in both its patented and unpatented tapes) to sell the patent owner's tapes *exclusively* where the corporate patentee induces said exclusive dealing agreements by providing to such wholesalers services it withholds from other wholesalers who do not so agree and who continue to sell competitive tapes.

2. Whether petitioner is denied due process by a Court of Appeals which, *de novo*, interprets petitioner's properly admitted prior art patent by relying on another patent never in evidence before the courts below for an interpretation of the admitted patent.

3. Whether a patent owner's concessions that its patented combination was old and was disclosed in a prior art patent cannot be considered as evidence showing that the patent in suit is invalid.

4. Whether a patent merely covering the addition of one old component to another old component may be sustained as an inventive act when the inventor admits, in accordance with the *A & P* case, 340 U. S. 147

(1950), that neither old component behaved differently in the patented combination than each did separately.

5. Whether the rule of equivalency permits the stretching of a patent claim on a mere combination of old components to monopolize later discovered components which were unknown when the patent issued.

Statutes Involved

The statutory provisions involved are Section 13 (e) of Title 15, U. S. C. which states:

> It shall be unlawful for any person to discriminate in favor of one purchaser against another purchaser or purchasers of a commodity bought for resale, with or without processing, by contracting to furnish or furnishing, or by contributing to the furnishing of, any services or facilities connected with the processing, handling, sale, or offering for sale of such commodity so purchased upon terms not accorded to all purchasers on proportionally equal terms.

Also involved are Sections 102 and 103 of Title 35, U. S. C. which are printed *infra,* pp. 55a-56a.

Statement

Petitioner (herein Technical) filed a declaratory judgment suit in 1951 to have respondent's Patent No. 2,177,627 (called Drew II) held invalid, not infringed or unenforceable due to respondent's (herein Minnesota's) misuse of the patent in violation of the Anti-Trust Laws. The jurisdiction of the District Court was invoked because the case arises under the Patent Laws and the Declaratory Judgment Act.

Minnesota is concededly the world's largest and dominant manufacturer of adhesive tapes whose basic patent on such tapes expired in 1947. Thereafter Technical entered this industry (Technical's Appendix on appeal, PA 35a) and when a controversy arose over Technical's right to make a cellophane adhesive tape in competition with Minnesota this suit was filed. ___ FS ____, 101 U. S. P. Q. 219 (1954). The District Court erroneously dismissed the complaint for lack of a justiciable controversy and the Court of Appeals reversed 200 F. 2d 876 (1953). The jurisdiction was established in a separate trial, 101 U. S. P. Q. 219, which was followed by trial on the merits.

The District Court held Drew II (PA 236a) to be valid, infringed and not misused, *infra*, p. 50a. The Court of Appeals affirmed in "in all respects" *infra*, p. 30a, both courts below relying heavily on a single previous decision in favor of Drew II in the Seventh Circuit Court of Appeals, *Minnesota Mining & Manufacturing Company* v. *International Plastic Corp.*, 159 F. 2d 554 (1947).

Technical is one of the few competitors of Minnesota in the tape industry, both companies making many kinds of adhesive tapes, most of which are unpatented. Technical's customers are mainly wholesalers and industrial consumers (R. 2983-85); Minnesota in addition to its wholesale business, also has thousands of customers who sell a few rolls of tape at a time to retail customers (R. 3877-78, 3875).

Technical sold all kinds of tapes at prices below those fixed by Minnesota (PA 192a-193a, 168a-169a). As Technical's price competition became bothersome, Minnesota sought to combat it by having its industrial wholesalers agree not to carry competitive tapes,

whether patented or unpatented (PA 122a-127a). Several wholesalers refused such agreements and Minnesota thereafter refused to supply them with any tapes at all (PA 128a-132a, 136a-138, 143a, 147a-148a, 152a-154a, 158a-159a, 165a, 174a).

The District Court found this conduct by Minnesota to be justified because it said "the conduct of 3M [Minnesota] in each instance was motivated solely by honest business considerations", *infra,* p. 50a. It did not identify what it regarded as honest business considerations. Moreover it limited the patent misuse doctrine *solely* to tie-in sales, *infra,* p. 49a.

As stated by the Court of Appeals, the exclusive dealing arrangements (which Minnesota and the Court euphemistically called a "select distributorship policy") were not misuse because the proposals were not made to "all" Minnesota's industrial wholesalers, acceptance was "voluntary" and those who accepted "received increased technical service and assistance", *infra,* p. 27a. The Court recognized that 25 to 30 wholesalers in New England alone accepted these deals, of whom some had previously carried "tapes made by 3 M competitors", *infra,* p. 25a.

Minnesota's basic patent Drew I, (PA 230a) which issued in 1930 and which expired 10 years ago, monopolized all adhesive sheets or tapes composed of paper (called a "unified cellulosic backing") and a sticky adhesive (called a "pressure sensitive adhesive"). Neither Drew nor Minnesota claimed to have originated either such paper or such adhesives. The adhesive sheets were made by dissolving a common natural rubber mixture in gasoline or benzene, coating the rubber solution on the sheet, drying the adhesive and rolling up the dry adhesive coated sheet—nothing more. No

assertion was made that the method of manufacture of such sheets or tapes was new.

In 1939 Minnesota obtained Drew II which monopolized all adhesive sheets or tapes composed of cellophane or smooth plastic films coated with the same sticky adhesives as shown in Drew I. The method of manufacture in each instance was the same. No assertion was made that Drew or Minnesota originated either cellophane or smooth plastic films (called "non-fibrous film backings" in the patent).

In both Drew I and II the identical adhesives were disclosed as sticking better to the sheet of paper or cellophane if a first adhesive coat (called a "primer") was used. This was a matter of preference and not essential (R. 798; *infra*, p. 15a).

Drew testified that the "making" of the alleged invention of Drew II consisted only of placing, with a knife, the adhesive shown in Drew I on du Pont cellophane instead of on paper (PA 73a-82a)—nothing else. Just as the eraser on a pencil stays an eraser and the pencil remains a pencil, he conceded that the adhesive remained unchanged and the cellophane remained unchanged; there was no mysterious or chemical reaction between the cellophane and the adhesive and "both retained their characteristics" (PA 81a).

The adhesives used in both Drew I and II were themselves old, being natural rubber either alone or mixed with old resins which made the sticky rubber stickier—all of which was known before Drew entered the field.

The "new" contribution of Drew II was simply the substitution of cellophane for paper.

The product has sold well and both courts below emphasized that its commercial success (by Minnesota which already had a monopoly on *all* paper-type tapes) was a factor which weighed heavily in their conclusions that the substitution of cellophane for paper was an inventive act.

Technical's cellophane tapes, held to infringe, were of two types: one, using as the sticky adhesive the synthetic rubbers developed at the time of World War II and the other using no rubber at all but instead a complex chemical material called a polyvinyl ether, unknown as an adhesive in 1939 when Drew II issued, *infra,* p. 15a.

In addition to Drew I, Technical relied on several prior patents to show that Drew's patented combination of cellophane (or plastic film) with sticky rubbery adhesives was old. One of these old patents (Hodgson) (PA 232a) showed celluloid (a plastic film) *or* cardboard coated with a rubbery, sticky adhesive of the same type Drew later used. The Court of Appeals mistakenly analyzed this patent by looking only at the coated cardboard (Figure 5, PA 232a) when Technical was pointing only to the coated celluloid (Figures 3, 4). Cardboard is paper and celluloid is not.

An even earlier French patent (Brandenberger) (PA 29a) showed the very combination of cellophane and rubbery sticky adhesive which Drew later patented. This patent had never been considered by the Patent Office and the Seventh Circuit Court of Appeals.

The Court of Appeals below interpreted this French Brandenberger patent as showing cellophane coated with a sticky adhesive (applied as a rubber solution) *infra,* pp. 10a-11a; but it held that since Brandenberger

suggested using his product to wrap electrical wires, Drew was entitled to a patent because he *suggested* his similar product could be used to wrap any kind of package.

Furthermore, instead of confining its attention to the one and only Brandenberger patent before it, the Court of Appeals turned *de novo* to a different Brandenberger patent, *infra*, p. 10a, never in evidence in this case. It then proceeded to interpret this second Brandenberger patent by adopting Minnesota's interpretation of it as shown in Minnesota's brief in a case, in another circuit, not involving petitioner, *infra*, p. 10a.

Neither this second Brandenberger patent nor Minnesota's brief in the other case was offered or received in evidence in the courts below. And Technical was given no opportunity to object, rebut or offer counter-evidence about this second patent and the self-serving declaration Minnesota had made about it elsewhere. Technical learned that these self-serving declarations and this second Brandenberger patent were involved in this case for the *first* time when the decision of the Court of Appeals was handed down.

Last but not least, while the Court of Appeals in its opinion relied on the second Brandenberger patent (and Minnesota's self-serving interpretation of it) it upheld a ruling below that admissions against interest made by Minnesota as to the *proper* interpretation of the French Brandenberger Patent were not to be considered. These admissions had been made by Minnesota while successfully trying to prevent a third party (named Rado), who was ahead of Drew, from getting German patents on sticky cellophane adhesive tape (PA 47a, 48a, 50a, 52a).

The essence of these actions below is that a patent owner's self-serving statements about a prior art patent are admissible whereas the patent owner's admissions against interest about the prior patents are inadmissible.

Reasons for Granting the Writ

1. The courts below have decided an important federal question in a way which appears to conflict with decisions of this Court and those of other circuits. Below it was held that the patent misuse doctrine (unclean hands) reaches only the situation where a patentee makes tie-in sales or licenses. Accepting the Court of Appeals version of the facts in this case, it was shown that Minnesota used its patent power to induce the acceptance of agreements by industrial wholesalers not to deal in competitive tapes, whether patented or not. Furthermore, as stated by the Court of Appeals, "those who accepted the proposals received *increased* technical service and assistance while those who rejected the proposals, together with other jobbers or distributors who did not qualify, continued to receive 3M [Minnesota] products and the technical service and assistance theretofore given them" (*infra*, pp. 27a-28a) (emphasis supplied).

Under 15 U. S. C. § 13 (e) discrimination in the services given to one wholesaler as compared with those given other wholesalers is forbidden.

It does not appear that any other court has been faced with such discrimination where a patent was involved.

The Court of Appeals has, however, sanctioned such discrimination if done by a patent owner; indeed it

found the discrimination *permissible* as a means of making exclusive dealing arrangements with wholesalers handling both its patented and unpatented products.

In other words, the Court of Appeals has limited this Court's decision in *Morton Salt Co.* v. *G. S. Suppiger,* 314 U. S. 488 (1942) only to tie-in sales or tie-in licenses; other violations of the Anti-Trust Laws, in the view of the courts below, cannot constitute unclean hands in a patent case.

The Third and Seventh Circuits have taken the opposite view of *Morton Salt.* In both *F. C. Russell Co.* v. *Comfort Equipment Corp.,* 194 F. 2d 592 (7th Cir. 1952) and in *F. C. Russell Co.* v. *Consumers Insulation Co.,* 226 F. 2d 373 (3rd Cir. 1955) the courts held that a patent owner's exclusive dealing arrangements with wholesalers constituted unclean hands. In *Newburgh Moire Co.* v. *Superior Moire Co.,* 237 F. 2d 283 (3rd Cir. 1956) it was further held that the unclean hands doctrine encompassed multiple price-fixing licenses in violation of the Sherman Act.

The Court of Appeals below apparently felt that these decisions did not apply because "not all" of Minnesota's industrial wholesalers had made the exclusive deals, those which were made were "voluntary" and had been induced by "increased" technical service and assistance Minnesota was to furnish them.

In other words to seduce a wholesaler not to deal in competitive brands of tapes by offering discriminatory advantages to the wholesaler, over his competitors, *contra* to 15 U. S. C. § 13 (e) is permissible. The courts below would perhaps feel differently if the wholesaler were coerced, rather than enticed, into these illegal agreements.

It does not appear that *Morton Salt* nor the decisions of the other circuits accepting and following its rationale would sanction the eroding of its principle by the distinctions drawn below. This Court should correct such errors made in this case.

2. In a matter of pure patent law and one which is important to industry generally in determining just how far beyond the language of a patent claim a court may stretch a patent monopoly, the courts below have announced a rule in direct conflict with the decisions of this Court and other circuits. The Fourth Circuit Court of Appeals has recognized the conflict and recently called attention to it. *Sears, Roebuck and Company* v. *Minnesota Mining and Manufacturing Co.*, ___ F. 2d ___, 115 U. S. P. Q. 208, at 210. (Oct. 18, 1957).

As pointed out *supra,* pp. 5, 6, Drew II is a combination of *old* adhesives and *old* sheets, e.g. cellophane. Technical used *new* adhesives, developed by third parties years *after* the patent issued. The courts below held this to be infringement not because these products of Technical fell within the monopoly defined by the claims of the patent, but because, although the products were outside the literal patent monopoly, they worked just as well as Minnesota's patented tapes.

To arrive at a holding that a patent on 2 old components also covered components discovered or originated after Drew II, the courts below ignored the applicable decisions of this Court and other circuits.

This Court in *Gill* v. *Wells,* 22 Wall. 1, at 15, 28 (1874), in *Imhaeuser* v. *Buerk,* 101 U. S. 647, at 656 (1879) and again more recently in *Halliburton Oil Well Cementing Co.* v. *Walker,* 329 U. S. 1, at 13 (1946)

has repeatedly held that for a patent on a combination of old components to cover the replacement of one of the old components with a component *not* disclosed in the patent, the new component must "be well known as a proper substitute for the one described in the [patent] specification at the date of the patent". To the same effect are, for example, *Doughnut Mach. Corp.* v. *Joe-Lowe Corp.*, 67 F. 2d 135, at 136 (4th Cir. 1933) and *Magic Light Co.* v. *Economy Gas-Lamp Co.*, 97 Fed. 87 (7th Cir. 1899).

If the rule stated in the courts below becomes the law generally, the public will be faced with the anomaly that patents on mere combinations of old components will sweep into their grasp many future discoveries or inventions whereas a patent on a new discovery cannot be so extended.

3. In the *A & P* case, 340 U. S. 147 (1950) this Court laid down the definitive standard of invention for combination patents such as Drew II. Mr. Justice Douglas in a separate concurring opinion with Mr. Justice Black listed some 20 cases where "incredible" patents had been sustained by lower courts and had to be brought before this Court "to be declared invalid". 340 U. S. at 156-158.

Of this group 45% came from the federal courts of New York—a startling proportion.

Recently the Second Circuit has commenced circling back to its former policy of sustaining "incredible" patents, *contra* to the mandate of this Court. In addition to Drew II (substituting cellophane for paper in adhesive tapes), the Court of Appeals has recently sustained two additional patents of elementary simplicity, as "inventions". One involved putting mag-

nets in artificial dentures to make them hold better, *Freedman* v. *Overseas Scientific Corp.*, 248 F. 2d 274 (2nd Cir. September 30, 1957); the other claimed as an invention the idea of using electricity instead of steam to keep an oil pipe warm, *Electric Pipe Line* v. *Fluid Systems*, 231 F. 2d 370 (1956).

It appears that this autonomous approach to the standard of invention in combination patents has arisen because 7 years have elapsed since this Court has reviewed a patent case on the merits. This warrants correction.

4. Not only did the courts below sustain an incredible patent (Drew II) but they did so in an incredible manner—a manner so far beyond the "accepted and usual course of judicial proceedings" as to call for the exercise of this Court's power of supervision.

The courts below made a new and very curious rule—a rule which deprived Technical of its constitutional right of due process. The new rule is an outgrowth of the Second Circuit's lone and peculiar *prior* rule that, in a patent case, the trial court may only take a limited peek at the Patent Office proceedings leading to the patent. Under this prior rule whatever a patentee told the Patent Office could not be used against him, apparently on the archaic theory that a patent is a contract and everything leading up to the document is like contractual negotiations which are merged into the one instrument. *Spaulding* v. *Wanamaker*, 256 Fed. 530, at 533 (2nd Cir. 1919). This Court and other Courts of Appeal have not accepted this rule at all. *Exhibit Supply Co.* v. *Ace Patents Corp.*, 315 U. S. 126, at 132-134 (1942); *Texas Company* v. *Globe Oil & Refining Co.*, 225 F. 2d 725, at 736-738 (7th Cir.

1955); *Wright Aeronautical Corp.* v. *General Motors Corp.*, 166 F. 2d 636, at 642, 645 (7th Cir. 1948).

As pointed out, *supra*, p. 8, Minnesota had successfully prevented a German named Rado from procuring (major) German patents on cellophane adhesive tape (the identical product on which Drew II was obtained). It achieved this success by bringing to the attention of a German tribunal the single French Brandenberger patent Technical later relied on below; in so doing Minnesota interpreted this French Brandenberger patent as showing that cellophane adhesive tape was old. Moreover, when Minnesota had previously been sued in Germany for infringement of Rado's petty patents on cellophane tape, Minnesota had defended by introducing the French Brandenberger patent and had the Rado petty patents invalidated (PA 50a).

Technical introduced documentary evidence of this —all obtained from Minnesota's own files and never previously before any United States court or agency.

The District Court ruled, *infra*, p. 43a, that whatever Minnesota said about this French Brandenberger patent could not be used against Minnesota because Brandenberger personally had not been a party to the proceedings Minnesota took against Rado. It also said, as an additional reason, that Minnesota was not chargeable with these admissions against interest, because they were stated by its authorized attorney, *infra*, p. 43a, and such statements are "opinions". The Court of Appeals endorsed this new rule.

It then amplified it. The Court, *infra*, p. 10a, somehow obtained a brief Minnesota had filed in the 7th Circuit. In this brief (neither offered or received in

evidence in the trial court below, nor involving Technical in any way), Minnesota's counsel expressed the view that a *second* Brandenberger patent (unrelated to the French Brandenberger patent) did not disclose the patented cellophane tape. The Court of Appeals seized upon *this* self-serving statement by Minnesota as an aid in interpreting the French Brandenberger patent, *infra,* p. 10a. Yet, for reasons it did not explain it ignored all the damaging admissions.

Technical was never given an opportunity to object to, rebut or otherwise defend itself against this latter procedure. It all happened for the first time on appeal.

This situation by itself would suffice for this Court to exercise its power of review.

CONCLUSION

For the reasons stated, this petition for a writ of certiorari should be granted.

Respectfully submitted,

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December 19, 1957

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APPENDIX A

Decision of the Court of Appeals

UNITED STATES COURT OF APPEALS

FOR THE SECOND CIRCUIT

No. 337—October Term, 1956.

(Argued April 12, 1957 Decided August 2, 1957.)

Docket No. 24207

TECHNICAL TAPE CORPORATION,
Plaintiff-Appellant,

—against—

MINNESOTA MINING AND MANUFACTURING COMPANY,
Defendant-Appellee.

Before:

MEDINA and WATERMAN, *Circuit Judges,* and
LEIBELL, *District Judge.*

Appeal from a judgment of the District Court, Southern District of New York, after a trial before Bicks, *J.*, dismissing plaintiff's complaint, amended complaint and supplemental complaint, which sought a declaratory judgment that defendant's Drew Patent No. 2,177,627 was invalid, not infringed, and unenforceable; and sustaining the defendant's counterclaim for patent infringement, and adjudging the patent valid and infringed by plaintiff, and awarding the defendant an injunction and damages, and an accounting to ascertain the damages. Affirmed.

Decision of the Court of Appeals

DANIEL L. MORRIS, CURTIS, MORRIS AND SAFFORD, New York City, *Attorneys for Plaintiff-Appellant* (Simon H. Rifkind, Samuel J. Silverman, Edward N. Costikyan, Emanuel E. Sternfield, Robert D. Spille and John A. Mitchell, Of Counsel).

H. H. HAMILTON, New York City, *Attorney for Appellee* (Harold J. Kinney and Robert I. Coulter, St. Paul, Minnesota; M. K. Hobbs, Plateville, Wisconsin; and Edward A. Haight and J. W. Hofeldt, Chicago, Illinois, Of Counsel).

LEIBELL, *District Judge*:

Plaintiff instituted this action on November 17, 1951, under the Declaratory Judgment Act (28 U. S. C. § 2201) to have the defendant's patent #2,177,627, issued to Richard Drew October 31, 1939[1] declared invalid, or, if valid, then not infringed. On a motion in the District Court the complaint was dismissed on the grounds that no justiciable controversy was stated upon which a claim for relief could be founded and that the court lacked jurisdiction. On appeal, this court (200 F. 2d 876) reversed and held that an

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1 The opening paragraph of Drew's patent #2,177,627 states:

"This invention relates to adhesive sheets having a backing with a non-fibrous surface (such as normal or waterproofed films of regenerated cellulose) and a coating of normally tacky and pressure-sensitive adhesive united thereto. While not limited thereto, the invention relates especially to transparent adhesive sheets, to adhesive sheets in the form of adhesive tapes which may be sold in stacked or coiled form, and to adhesive sheets or tapes which are well adapted to the sealing or securing of wrappers composed of non-fibrous lustrous cellulosic films and the like."

The adhesive tape made by defendant under the Drew patent is familiarly known as "Scotch" cellophane tape.

amendment to the complaint in the interest of clarity, should be allowed. Then followed various procedural steps, resulting in an amended complaint, a supplemental complaint, the defendant's answer and plaintiff's reply. In its answer Minnesota set up a counterclaim for an injunction against further infringement of its patent by plaintiff, and for damages. Plaintiff's reply charged a misuse by defendant of its patent, in that defendant allegedly attempted to extend its patent monopoly to cover unpatented products, that defendant illegally restrained competition, and for those reasons a court of equity should not grant defendant any relief on its counterclaim.

The trial of this case before Judge Bicks took five weeks. On July 18, 1956, he filed his opinion (143 F. Supp. 429) and on July 26th signed a judgment. The judgment declared that (a) all of the sixteen claims of the Drew patent are valid "except claim 9 as to which no adjudication of validity is made, no infringement of said claim having been found"; that (b) the plaintiff had infringed all the claims of the patent (except claim 9); that (c) defendant had not been guilty of inequitable conduct and was not barred from enforcing the patent; that (d) an injunction should issue enjoining and restraining the plaintiff from making or selling any transparent or colored non-fibrous, film-backed pressure-sensitive tape or sheeting embodying the invention of Letters Patent No. 2,177,627; that (e) defendant recover of the plaintiff the damages which defendant had sustained by reason of the aforesaid infringement; and that (f) plaintiff's complaint, amended complaint and supplemental complaint be dismissed with costs.

The patent expired October 31, 1956. Plaintiff-appellant has filed a substantial bond for any damages ultimately awarded.

On this appeal Technical Tape contends (1) that there was no "invention" in what Drew did (Drew II patent,

#2,177,627); (2) that there was no novelty in what Drew did because other patents anticipated Drew; (3) that plaintiff, Technical Tape, did not infringe the Drew II patent; (4) that Minnesota has abused whatever patent rights it may have had and is entitled to no relief.

Every judge before whom the validity of the Drew II patent (#2,177,627) was litigated in the District Court (Judges Barnes and Campbell in the Northern District of Illinois and Judge Bicks in the Southern District of New York) has held the Drew II patent valid. Judge Sparks and Judge Minton of the United States Court of Appeals (7th Cir.) and Judge Baltzell, a District Judge who sat with them and heard the appeals from the judgments entered on the decisions of Judge Barnes and Judge Campbell, upheld the validity of the Drew II patent (159 F. 2d 554). We have considered the evidence in this case on the issue of validity and we are convinced that Judge Bicks' finding of invention and validity should be sustained.

Judge Barnes in *Minnesota Mining & Mfg. Co.* v. *Pax Plastics Corp.*, 65 F. Supp. 303, 306, summarizes the salient features of the Drew II patent,[2] as follows:

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2 The Drew II patent (#2,177,627) after briefly describing the invention in its opening paragraph (footnote 1), mentions the packaging problems which it would help solve. Those problems arose from the use of "packaging and wrapping sheets composed of thin, transparent and flexible non-fibrous films" and the need for sealing or fastening the sheets with proper adhesives, a need which the old conventional adhesives could not meet because of "the non-porous or highly glazed surfaces provided by this type of sheet material" which is transparent and waterproof.

The patent then goes on to describe how, under Drew's invention, the sheets of film material "are provided with coatings of normally tacky and pressure-sensitive adhesive firmly united thereto." These and other characteristics of the adhesive are discussed in the patent as follows:

"By 'normally tacky and pressure-sensitive' it is meant that under ordinary atmospheric conditions the adhesive is stably in a condition such that it does not need to be activated by solvents or heat or otherwise prepared in order to secure good adherence to surfaces

Decision of the Court of Appeals

"The claims in suit are drawn to a new kind of adhesive sheet or tape having a field of utility not possessed by any prior adhesive tape of any kind. Whether transparent or colored, and whether involving a primer or not, this tape is stably and aggressively tacky and seals instantly on contact with almost any surface, without moistening or heating. The backing is a thin transparent film having smooth, glassy surfaces, such as

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against which the adhesive coating (with its backing) may be pressed when used. An adhesive coating is provided which enables the adhesive sheeting to be affixed to smooth lustrous surfaces, such as non-fibrous cellulosic surfaces of wrapping or packaging sheets or films. An object of the invention is to provide a unified adhesive coating possessed of such coherence in relation to adhesiveness and so firmly united to its backing that the adhesive sheet may be stripped from smooth non-fibrous surfaces (not possessing special chemical affinity for the adhesive), to which it may have been temporarily applied, without offsetting of adhesive material. Hence the adhesive coating may be termed 'non-offsetting,' and this expression designates an important phsyical or physico-chemical property or characteristic of the adhesive coating, namely, that its coherency is greater than its adhesiveness. Further, an object is to provide adhesive sheets having an adhesive coating that is in elastic equilibrium with its backing so that warping and curling of the sheet, and blistering of the adhesive coating, are avoided."

The drawings accompanying the patent show three figures, which are described on page 1 of the patent as follows:

> "Fig. 1 shows a roll of adhesive tape, the tape having a non-fibrous film backing provided with a water-insoluble normally tacky and pressure-sensitive adhesive coating, which may be unwound without delamination or offsetting of adhesive;
>
> Fig. 2 is a diagrammatic cross-sectional representation of a construction in which a primer coating is interposed between the backing film and the normally tacky and pressure-sensitive adhesive coating; and
>
> Fig. 3 is a corresponding representation in which the primer coating is omitted."

The patent sets forth various compositions of the adhesive—Examples A and B can be used "where transparency of the adhesive tape is not of major importance"; Example C, "where it is desired to obtain a clear composite of backing material and adhesive"; Example D, "where

cellophane. Both the colored and transparent types have been widely used for sealing packages. The colored type provides an attractive decorative seal for packages and has also been widely used as a coding tape for wires and tubes. The adhesive contains coloring material visible through the transparent film backing and produces the optical illusion that the backing film is colored, thus causing the back surface of the tape to have a lustrous colored appearance. The backing film protects the colored stratum from becoming smeared or dirty in use of the tape, and provides a back surface to which dirt does not readily cling. The transparent type of tape provides an 'invisible' sealing, mending

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lack of transparency is not objectionable and the addition of a colored hue to the composite of backing and adhesive material desirable." And where "maximum transparency and the highest possible bond strength and firmness" are sought, a composition described in Example E is recommended.

The patent further explains how—

> "In making the adhesive, the rubber base and the resin base determine the tackiness exhibited by the finished product. This relationship, also coupled to a certain extent with the treatment given to the rubber, determines this factor.
>
> In producing a clear adhesive, the relationship of plasticizer (above listed in the form of liquid paraffin oil) and resinous material may be considered as constituting the tack producing phase of the adhesive and up to a certain point the greater the quantity of the tack producing phase that is added to the rubber, the greater the tackiness exhibited in the rubber base adhesive."

The patent also states how the materials for the formulas are to be prepared and the various steps and methods to be followed in obtaining the proper mixture for the adhesive. The patent then describes the methods to be followed in applying the adhesive to cellulose sheet backing.

> "In use, the adhesive as above described may be directly applied to the backing or sheets of transparent gelatinized cellulosic materials, previously enumerated, and forms a desirable product.
>
> Where considerable unification is desired between the adhesive layer and the backing material, to assure proper anchorage of the adhesive layer with the backing material, thereby assuring satisfactory unwinding or separation when the composite is formed into rolls or stacks, it is preferred to first coat the sheet of gelatinized

and holding tape widely used for sealing packages, mending books, records, maps and charts, and fastening posters on windows and bulletin boards. Both types of tape have many other uses."

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cellulosic material with a priming composition. Priming on one surface is particularly effective with sheets formed of regenerated cellulose. The priming operation consists of first coating the backing material before application of the adhesive materials previously described."

Five different formulas for the primer, when used, are described and discussed in the patent. A primer coating is mentioned in Claim 10 but not in Claim 4.

Claim 4 of the patent states:

"4. A transparent adhesive sheet comprising a non-fibrous transparent flexible film backing having non-porous surfaces and a water-insoluble normally tacky and pressure-sensitive transparent flexible adhesive coating, said adhesive coating being firmly united to said backing and the adhesive and backing being of such kinds that the back surface of the backing is inactive to the adhesive coating to a degree permitting unwinding of the adhesive sheet from rolls thereof without delamination or offsetting of adhesive."

Claim 10 states:

"10. An adhesive sheet comprising a transparent flexible non-fibrous film having non-porous surfaces, a coating thereupon of a non-offsetting transparent normally tacky and pressure-sensitive water-insoluble adhesive, and an interposed transparent primer coating unified both to said surface and to said adhesive coating, the composite sheet being transparent and its parts so firmly united that it may be unwound from rolls thereof without delamination or offsetting of adhesive."

Claim 4 is typical of Claims 5, 6, 8 and 15; and Claim 10 is typical of Claims 11 and 16. Claims 13 and 14 provide for the use of coloring material in the adhesive. Claims 15 and 16 provided also: "said adhesive sheet transmitting light so that the sheet will not conceal the coloring or markings of surfaces to which applied."

The type of sheet is a sheet of cellophane; the type of adhesive is a "water-insoluble normally tacky and pressure-sensitive transparent flexible adhesive coating" (the formulas are described in the patent) which when applied to the front surface of the film backing becomes firmly united to it, and is of such a kind that the sheet can be wound, and the back surface of the backing is inactive to the adhesive on the front surface to a degree that, when the sheet is unwound, none of the adhesive is offset or becomes attached to the back surface of the film backing, because the cohesiveness of the adhesive coating is greater than its adhesiveness.

The patent in suit is not invalid on the grounds that it is an aggregation of components that were old. Plaintiff contends that cellophane sheets were old and so was the use of rubber, resin, and rubber-resin adhesive; and that plaintiff's patent is simply an aggregation of the two. Plaintiff's premise does not fully state the facts and its conclusion is not correct. Defendant's aggregation of old elements produced a "new quality" and "function," and a new article. It contributed something not had before. It added "to the sum of useful knowledge." It required "more than ordinary mechanical skill" to produce it. *A. & P. Tea Co.* v. *Supermarket Corp.*, 340 U. S. 147 at pages 151 and 152. A novel combination of old elements which cooperate with each other so as to produce a new and useful result is patentable. *Weller Mfg. Co.* v. *Wen Products, Inc.* (7th Cir.), 231 F. 2d 795, 798; *Brown* v. *Brock* (4th Cir.), 240 F. 2d 723, 726; *Zonolite Co.* v. *United States* (Court of Claims), 149 F. Supp. 953, 955.

It is defendant's contention that Drew was the first to produce film backed, normally tacky, pressure-sensitive and water-insoluble adhesive sheets and tape, all of which is clearly and fairly defined in the specifications and claims of the Drew II patent.

The specifications of the Drew II patent use the words "adhesive sheets or tapes" in the first paragraph and many times thereafter, although the claims refer to adhesive sheets. The adhesive sheets of the Drew patent claims could be of any width, such as tape size material.

That Drew's patent involved invention is established in several ways. It had been sought by expert chemists of the DuPont Co. and of Johnson & Johnson, for a number of years, unsuccessfully. *Expanded Metal Co.* v. *Bradford*, 214 U. S. 366, 381; *Loon Co.* v. *Higgins*, 105 U. S. 580, 591.

In his own experiments Drew stumbled upon it. Of course, after Drew's discovery it all seemed simple. With Drew's patent to point the way, infringing competitors would claim that it was so obvious that there really was nothing to it; that it did not require anything but mechanical skill and the use of known materials. But the demand had long existed; skilled men had sought to meet the demand without success. *Inland Mfg. Co.* v. *American Wood Rim Co.*, 14 F. 2d 657, 659 (6th Cir.). In the recent case of *Rohm & Hass Co.* v. *Robert Chemicals, Inc.*, decided May 27, 1957, —— F. 2d —— the Court of Appeals for the Fourth Circuit in reversing a District Judge's holding that the patent in suit before him was invalid for anticipation, stated:

> "Since Hester tried and succeeded where Tisdale and the duPont Company tried and failed, we may fairly conclude that the discovery was not obvious to persons skilled in the art."

The phenomenal success of the Scotch tape produced by the defendant under Drew's patent is not to be overlooked in considering the question of invention. The Seventh Circuit called it "quite astonishing." Drew had hit upon something that was useful in many industries in packaging and sealing their products. Although commercial success is not decisive on the issue of invention it is a factor that should not be ignored. *Wahl Clipper Corp.* v. *Andis Clipper Co.*, 66 F. 2d 162, 165 (7th Cir.).

In considering the issue of invention and "how far beyond commonplace contriving was the foresight necessary to think out the combination," the courts find it enlightening to resort to "the history of what went before, the duration of the period during which the invention was needed but failed to appear and its acceptance when it did." L. Hand, *J.*, in *Landis Mach. Co.* v. *Parker-Kalon Corp.*, 190 F. 2d 543, 546. "Substantially all inventions are for the

combination of old elements; what counts is the selection, out of all their possible permutations, of that new combination which will be serviceable." *Safety Car Heating & Lighting Co.* v. *General Electric Co.*, 155 F. 2d 937, 939.

The prior art on which plaintiff-appellant relies on this appeal as anticipating Drew II patent will now be discussed.

Plaintiff points to the *Brandenberger French patent* (#433,999, 1912) as an example of the prior art that anticipated Drew. Brandenberger's French patent stated: "The (cellulose) sheets can be bonded by means of any adhesive substance, but, in order to increase their electrical resistance, they can be coated first with linseed oil, a solution of rubber or any insulating varnish. These coatings or varnishes can themselves serve as adhesives." Brandenberger, while a technical adviser of DuPont, never suggested that his French patent of 1912 would give DuPont the answer to its problem of getting a proper sealing medium for its cellophane. If any of his patents[3] had anticipated Drew, and if Drew merely made such advances over Brandenberger as anyone skilled in the art could have made, it is surprising that Brandenberger did not accomplish this himself. No one was in a better position to do so with his years of experience and all the research resources of DuPont within his reach.

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3 The Brandenberger United States patent #1,221,825, was withdrawn during the trial before Judge Barnes in the *Pax Plastics Corporation* case (65 F. Supp. 303 at p. 305). It had been pleaded as anticipating Drew II in the *International Plastic Corp.* case, but Judge Barnes ruled otherwise. On appeal, the Seventh Circuit stated that it was convinced that the Brandenberger #1,221,825 patent did not in any way anticipate the disclosures of the Drew II patent. It appears from Minnesota's brief on appeal in the *International Plastic Corporation* case (*supra*) that the Brandenberger patent #1,221,825, issued in 1917, showed the use of an adhesive "to cement together a plurality of films in making a multi-layer photographic film," that "there was no disclosure of pressure-sensitive adhesives," and that it had nothing "to do with the adhesive tape art."

The *Kronstein patent* (#1,944,562) was not mentioned in the opinion of the Seventh Circuit (159 F. 2d 554), but it was later considered by Judge Campbell in the *Neisner Bros. Inc.* case (122 F. Supp. 752, 754). He noted the similarity between the Brandenberger French patent #433,999 and the Kronstein patent and found that it did not anticipate Drew II. The Brandenberger French patent was intended to increase the insulation feature of cellulose sheets when bonded together by an adhesive substance, which also filled the pores of the sheets. That Kronstein's ideas were quite similar to Brandenberger's is not disputed. Both dealt with the use of cellophane as an electrical insulation with an adhesive coating. Judge Campbell pointed out that the "problems which confronted Kronstein and Brandenberger were not the same as those which confronted Drew, and their inventions were designed for correspondingly different uses."

In the case at bar, the trial judge considered the Kronstein patent and quoted in a footnote to his opinion the finding of Judge Barnes in the *Pax* case (65 F. Supp. 303) as to the Kronstein patent for an electrical insulating band or ribbon. Neither the French Brandenberger patent nor the Kronstein patent anticipated the Drew II patent.

Plaintiff-appellant argues that the *Hodgson patent* #1,467,108 disclosed the subject matter of the Drew II patent and observes that it is not discussed in the opinion of the District Court in this case. But the District Judge stated in his opinion that he had examined the patents referred to as prior art and compared each with the patent in suit and that the Drew patent is sufficiently distinguished from them.

The Hodgson patent is for a "dental film mount" and was issued September 4, 1923. It states that "This invention relates to mounts for photographic films and particu-

larly to mounts adopted to hold small dental Rontgenographic negatives so that they may be examined by transmitted light, and so that they may be readily filed." The mount has a window and the film, which is larger than the window opening, is attached to the back of the mount by an adhesive substance. The adhesive is referred to as a "slow-drying adhesive, the desired characteristic being that the adhesive shall remain 'tacky' for a very considerable length of time." The *Hodgson* patent also states that "While the particular composition of the adhesive is not of importance, it is preferably a composition of rubber and coal-tar pitch with any suitable softener such as benzol, gasoline or chloroform."

The patent describes and shows the mount as consisting of two parts. The face sheet is an opaque fabric with an opening in it. The rear sheet is of opaque paper, with an opening in it slightly larger than the face sheet, so that a small margin of the face sheet is exposed all around the rear sheet, when covered by the face sheet. An adhesive is applied to all of the back of the face sheet and when the rear sheet is applied to the face sheet, it will stick to it and at the same time leave a small margin of the rear of the face sheet, with the adhesive thereon, exposed around the opening. The negative may be pressed down from the rear around the aperture against the exposed small margin of the front sheet with the adhesive thereon, and is thus held in place—"but should it be desirable for any reason to remove the negative, this can be done since it can be stripped from the adhesive without injury to its diagnostic value." That is so because the picture on the film is so centered that it does not reach to the outer parts of the film which were applied to the exposed adhesive part of the mount. What happens to the adhesive when the film is removed? Does some of it detach itself from the paper mount and adhere to the film? Does all the adhesive re-

main on the paper mount? Does all of it attach itself to the film? The patent is silent as to that. And Mr. Shalita, in explaining the Hodgson patent for the plaintiff, admitted that it did not say that the adhesive was non-offsetting or transparent.

The Hodgson patent in no way anticipated the Drew II patent. It does not teach what the Drew II patent taught, nor does it claim anything like what is claimed in the Drew II patent. A comparison of the claims of the two patents proves that absolutely.

Plaintiff complains that defendant's main answer to the Hodgson patent is to scoff at it. The fact is that in all the cases in the District Courts in which Hodgson has been cited as anticipating Drew II, it has been ignored by the courts, as not worthy of any discussion. The Seventh Circuit found no merit in the contention that Hodgson's patent anticipated the Drew II patent. And as defendant's counsel herein remarks "there is no evidence that anyone was ever inspired by it to conceive of Drew's entirely different product." We agree with the conclusion of the Seventh Circuit that the Hodgson patent did not in any way anticipate the disclosures of the claims in suit.

A basic difference between the *Drew I patent* (#1,760,820) and the Drew II patent (#2,177,627) is that the former applied an adhesive to a porous backing such as "paper or similar fabric material," while the latter applied an adhesive to a non-fibrous film backing. Drew I also refers to a "unified cellulosic backing" which is defined as meaning "to include a web of fabric comprising paper chosen from the materials herein described including gelatinized cellulosic sheets such as parchmentized paper" and various other types of paper, treated with various compositions. Parchmentized paper is not transparent; and it is not non-fibrous or non-porous. No one of the six claims

of the Drew I patent mentions a "film backing." In Drew II the term "film backing" is used in all the claims except 9 and 10. Claim 9 uses the expression "regenerated cellulose film," and Claim 10 a "non-fibrous film."

That plaintiff infringed the Drew II patent is clear from the supplemental complaint [paragraph 8(c)][4] and the

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4 "8.(c) Defendant has brought suit in the District Court of the United States in Chicago, Illinois, against a number of parties for infringement of the said patent No. 2,177,627 by reason of the manufacture and/or use and/or sale of pressure-sensitive adhesive tapes and sheets substantially identical with or not materially different from those manufactured and/or used and/or sold by plaintiff herein. These suits are identified as follows:

Minnesota Mining & Manufacturing Company v. Pax Plastics Corp., et al., Civil Action 45 C 846, reported at 65 F. Supp. 303; Minnesota Mining & Manufacturing Company v. International Plastic Corporation et al., Civil Action No. 44 C 202, reported at 62 F. Supp. 34 and at 159 F. 2d 554, and Minnesota Mining & Manufacturing Company v. Neisner Bros., DC, ND, ILL, ED Civ. Action No. 51 C 1789, filed November 7, 1951." [This is reported at 101 F. Supp. 926 and at 122 F. Supp. 752.]

5 "5. Tech. Tape admits that, prior to the time the complaint was filed, it made, used and sold transparent non-fibrous film-backed pressure-sensitive adhesive tape having the following construction:

(a) a backing of cellophane, which is a transparent, flexible, non-fibrous film backing having smooth, lustrous surfaces;

(b) an adhesive coating prepared from rubber and resin which is normally tacky and pressure-sensitive, is water-insoluble, is firmly bonded to the backing, and is non-offsetting, and is transparent and flexible, the back surface of the backing being inactive to the adhesive coating to a degree permitting unwinding of the tape from the roll without delamination or offsetting of adhesive;

(c) a primer coating interposed between the backing and adhesive coating and firmly bonding the adhesive coating to the backing, the primer coating being transparent and flexible."

"9. Tech. Tape further admits that prior to the time the counterclaim was filed it has manufactured, used and sold tape constructed as described in paragraph 5, except that the adhesive coating is prepared from polyvinyl ether rather than rubber and resin."

Agreed Statement (Ex. B) [paragraphs 5(a)(b)(c) and 9].[5] The use of a primer is included in Claims 10, 11 and 16 of the Drew II patent. But the use of a primer is not essential to producing a satisfactory tape under the other claims of the patent (except Claim 9, not relied on by defendant).

The exception mentioned in paragraph 9 of the Agreed Statement limited that admission to the use by plaintiff, in one of its tapes, of an adhesive coating "prepared from polyvinyl ether rather than rubber and resin." The latter is a second type of accused tape, which used an adhesive very similar to that which Judge Campbell had before him in the *Neisner* case (101 F. Supp. 926, and 122 F. Supp. 752, 754). Even if the equivalent plaintiff used was unknown at the time of Drew's invention, it was none the less an equivalent and infringed—*Finkelstein* v. *Kress*, 113 F. 2d 431, 433. The substitute functions in the same way as the original and produces the same result.

Judge Barnes had decided the suits of Minnesota against Freydberg and against Bulkley in Minnesota's favor on March 30, 1946, 65 F. Supp. 303, affirmed 159 F. 2d 554 on January 9, 1947. The tape they sold as Illinois distributors of Cofax was made by Cofax, a New York corporation. The plaintiff, Technical Tape Corporation, a Delaware corporation, was organized in 1947, with a place of business in New York City. In August or September 1947 plaintiff hired Shalita, who had worked for Cofax from 1942 to early 1946 and then for another concern. Shalita became a director and Vice-President of plaintiff. Mr. Cohen, the President of Technical, testified that plaintiff leased a factory in October 1947 and began production in the late Spring of 1948. At first plaintiff produced paper backed and cloth tapes, like the masking tape of the Drew I patent, which had expired on May 27, 1947. Later it also manufactured cellophane backed tapes and tapes having

backings with non-fibrous surfaces. According to the supplemental complaint, at least as early as 1950, plaintiff was preparing to manufacture film backed pressure-sensitive adhesive tape and had requested in writing a license from defendant which was refused in September and October 1950. It also appears that as early as October 1950 plaintiff had had a Canadian affiliate manufacturing the said tape upon instruction of plaintiff and that plaintiff had imported the tape from Canada. Also, according to the supplemental complaint plaintiff, itself, has manufactured cellophane backed pressure-sensitive adhesive tape of the kind defendant charged was being manufactured and sold by plaintiff in infringement of Drew II patent, #2,177,627, since as early as about May 1951 and had sold such tape in the United States since prior to November 17, 1951.

Plaintiff's infringement of defendant's patent was deliberate. When he was seeking a license from Minnesota the plaintiff's president declared he would make a pressure-sensitive adhesive tape whether or not he got the license. He read the Drew II patent a hundred times. He persuaded an employee of Minnesota's (a quality control man) in May 1951 to get Minnesota's "standard books" and advised him to keep from his employer the fact that he was to enter plaintiff's employ. He hired an expert, Shalita, who had made an infringing tape for Cofax Corporation. That was the tape involved in Minnesota's suit against Freydberg, and its suit against Bulkley, heard by Judge Barnes who held that the Cofax tape infringed Minnesota's tape. The judgments were affirmed in 159 F. 2d 554. Shalita had made tapes from the Drew patent examples. With that group around him, the president of the plaintiff-appellant herein, finally made a tape which was so similar to Minnesota's in every respect that at the trial even he could not tell the one from the other, without an identifying name on the core. The Technical Tape Cor-

poration was a willful infringer. *Colgate-Palmolive* v. *Carter*, 230 F. 2d 855.

DEFENDANT'S ALLEGED "MISUSE" OF THE DREW II PATENT

As a special defense to defendant's counterclaim for patent infringement, plaintiff charges that the defendant has "misused"[6] the Drew II patent (#2,177,627), and does not come into court with clean hands; and therefore asks that defendant be denied any relief on its counterclaim. Plaintiff contends that 3M abused its patent monopoly on transparent adhesive tape (Drew II patent) in two ways: (1) by selling its transparent adhesive tape on the condition that the purchaser thereof buy other 3M tape not covered by the patent in suit (citing *Morton Salt Co.* v. *Suppiger Co.*, 314 U. S. 488); and (2) by selling its patented transparent adhesive tape on the condition that the purchaser thereof refrain from buying other adhesive tape products, not covered by the patent in suit, from any other manufacturer (citing *F. C. Russell Company* v. *Consumers Insulation Company*, 226 F. 2d 373).

To support the charge of "misuse" plaintiff took the depositions of six distributors, and at the trial produced oral testimony of a seventh distributor, and his wife.

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6 The charge of "misuse" is contained in the last paragraph of plaintiff's "Reply" as follows:

"defendant sells its patented adhesive tape in commerce among the several states on the condition that the purchaser thereof shall buy adhesive tape, not covered by the patent in suit, from defendant, or its licensees; and that the purchaser shall refrain from buying adhesive tape not covered by the patent in suit from anyone other than defendant, or its licensees; whereby defendant unlawfully extends the monopoly, if any, of said patent to cover products not covered by any valid claim thereof."

The seven distributors are: Lloyd's Office Supply of Pawtucket, Rhode Island (an Industrial Tape Division account); Edwards Paper Company of Roxbury, Massachusetts (an Industrial Tape Division account); Southern Stamp and Stationery Company of Richmond, Virginia (an Industrial Tape Division account); Cammack Office Supply of Burlington, North Carolina (a Wholesale-Retail Tape Division account); Anchor Office Supply Company of Cleveland, Ohio (a Wholesale-Retail Tape Division account); Crown Office Supply Company of Chicago, Illinois (a Wholesale-Retail Tape Division account); and Aviation Service Supply Company of Denver, Colorado (an Automotive Tape Division account). Plaintiff also examined before trial Al Drew, defendant's New England District Sales Director of its Industrial Sales Division. Both sides read parts of Drew's deposition into the record of the trial. All the depositions were received as exhibits.

The defendant rebutted the charge of misuse, by the cross-examination of the distributors whose depositions were taken,[7] by the cross-examination of the Arnolds, by

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7 C. L. Arnold and his wife, Elizabeth, owners of the *Lloyd's Office Supply Co.* of Pawtucket, R. I., testified for the plaintiff, in part as follows:

The Lloyd Company's customers were mostly mills, factories, offices and governmental institutions. When Lloyd commenced business in 1949 it sold only the 3M line of tapes. In 1951 Lloyd took on Tech Tape products, which sold at a lower price. In September 1953 a 3M sales representative called on Mr. Arnold and told him that if he wished to continue selling 3M tape he would have to stop selling Tech Tape. Al Drew told Arnold that that was the defendant's policy. At the time there was an unfilled order for a customer named Glasscraft, a corporation in which Mr. Arnold had a stock interest. Later when Tech Tape came out with a new tape meeting Glasscraft's requirement Arnold sold Glasscraft some of that tape. Lloyd sells both "Technical" and "Industrial" tape products. About 81% of Lloyd's purchases of 3M tape from defendant, were on behalf of Glasscraft, to which defendant would ship direct.

Mr. Smith testified that he had no personal knowledge of the Lloyd company matter. Lloyd failed to meet defendant's requirements that

using parts of the deposition of Al Drew, by testimony of Charles C. Smith, General Manager of the defendant's Cellophane Tape Division for the Wholesale-Retail trade, and by testimony of John J. Bennison, the Eastern Re-

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the bulk of a distributor's buying should go to more than one customer, a policy that was in effect for a long time. Al Drew testified that the defendant did not have any policy under which defendant would refuse to sell any jobber unless he sold only 3M's tapes, and that he never offered Lloyd's any exclusive sales agreement. Bennison testified that the defendant had no exclusive dealing policy and no tie-in sales arrangement with any of its jobbers.

Mr. Trachtenberg of *Edwards Paper Company* of Roxbury, Mass., stated in his deposition taken by plaintiff in part as follows: That his company had been in business selling industrial customers since 1945, and that from 1947 to 1952 he had bought his tapes from the plaintiff (Technical Tape); that in 1952 he began to stock defendant's tapes. A salesman of defendant told him there was no reason why he could not handle defendant's tapes even though he was selling plaintiff's products. Early in 1953 defendant's agent cut him off, saying that it was pursuant to a new policy of exclusive handling, that if he handled any other tape he could not handle defendant's; and that an order he gave for 3M tape was refused by defendant in March 1953. On cross-examination it developed that in 1952 Edwards Paper Company made only five purchases of defendant's products, totalling $407.18 and two orders in January and February 1953 for $272.37; and that all of the purchases (except $40) were made for the benefit of a single customer (Ware Shoe Co.) whose requirements called for 3M tape No. 880 and who had purchased 3M tape before becoming a customer of Edwards. The Edwards Company had also sold about $100.00 worth of 3M masking tape (the Drew I patent) in 1952 and 1953.

Al Drew testified that he instructed a salesman, Mr. Burhoe, to notify the Edwards Company that it was no longer considered a distributor. One of the requirements for defendant's distributors was that the bulk of their sales should be to more than one customer. The Edwards Company's sales were practically all to one customer.

Mr. Smith had no personal knowledge of the Edwards Company matter, but he had heard about it. It was not in his subdivision. Mr. Bennison, who was Mr. Drew's superior, testified that the defendant had no exclusive dealing agreement or any tie-in sales arrangement with any of defendant's jobbers.

The deposition of Mr. Rosendorf, a partner in *Southern Stamp and Stationery Co.* of Richmond, Virginia, taken by plaintiff, was in part as follows: The Company sells a line of stationery supplies, office furniture and equipment and is one of the largest in Richmond. It purchased 3M products from 1942 to 1952, averaging about $40,000

ional Sales Manager for the Industrial Trade Division f defendant.

Concerning the seven distributors, the trial judge stated n his opinion: "The situation with respect to each of

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a year. In 1953 it sold $25,000 of 3M products, mostly drop shipments and its principal customer was Reynolds Metals Co. In late 1952 Southern opened an account with Tech Tape as a distributor. In November 1953 two representatives of 3M called on Southern and complained that other makes of tape were being used in 3M dispensers. Southern was selling Tech tapes to the Reynolds Co., which was using it in 3M dispensers, acquired when Reynolds used 3M tape. The representatives of 3M said they would recommend that Southern be not allowed to sell 3M tape. In December 1953 Rosendorf was again visited by representatives who said Southern's orders for 3M tape would not be filled, that Southern could have them filled by "the other fellow," Tech Tape. Southern's orders for 1953 were mostly drop shipments to manufacturing customers. For the last nine months of 1953 Southern's total purchases of 3M tapes for store customers was only $194.96. In five of those nine months Southern made no such purchases. Southern was pushing Tech tape in preference to 3M's, even when the customer asked for 3M's tape, because Tech tape was cheaper and afforded Southern a larger profit. Only if the customer insisted on 3M tape did Southern sell him 3M. It was Southern's policy to do that. Mr. Smith testified that he did not know the details of the Southern Company matter.

Plaintiff took the deposition of Mr. Cammack, the owner of *Cammack Office Supply* of Burlington, North Carolina, who testified in part as follows: He had handled 3M products and those of Industrial Tape Corp. (a licensee of 3M) beginning 1946 or 1947; and some time later took on the Tech Tape line. In October 1953 he was visited by a salesman and a representative of 3M, who saw Tech Tape products on his shelves. They told him of the pending patent infringement suit. He said that he was going to continue selling Tech tape. He was again visited by 3M's salesman in January or February 1954, looking for an order. Although he was short on 3M products he limited his order to 3M dispensers and small sizes of Scotch tape. Next day he was told his order would not be filled. Between October 1953 and February 1954 he had made no effort to replenish his stock of 3M tape. He was selling Tech tape instead, and was displaying Tech cellophane tape in defendant's Scotch tape dispensers, which bore defendant's name. Mr. Smith of 3M testified that Cammack was not cut off and that he was still carried on the records of 3M's Atlanta Branch as an active customer.

Plaintiff took the deposition of *Anchor Office Supply Co.* of Cleveland, Ohio, through its president, Mr. Rosenblatt, who testified in part, as

these seven distributors has been considered and the Court is satisfied that the conduct of 3M (the defendant) in each instance was motivated solely by honest business considerations in no wise related to an attempt to extend the monopoly of the Drew Patent."

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follows: The company was organized in June 1950 and handled office supplies and equipment and sold various types of tapes, including masking tape and cellophane tape. At first it handled 3M tape. It sold about $12,000 a year of 3M's cellophane tape and masking tape. In 1952 Anchor began handling Tech tape. In April 1954 when the City of Cleveland asked for bids on "Scotch" tape, Rosenblatt inquired if the City would accept a tape equally as good and he was the successful bidder and supplied Tech tape. Shortly thereafter two of 3M's salesmen came to see him about the bid and he was told that if he continued to sell Tech tape, 3M would be forced to take its line away from him. Rosenblatt stated that he then called the Department of Justice office in Cleveland to inquire if they could do that to him, and shortly thereafter (April 7th) received a letter from the Department saying that an investigator of the Department, an Agent of the F.B.I., would call upon him. Rosenblatt contended that the letter was in response to the telephone call. But the letter was from New York, not from Cleveland, and at that time an investigation of all the stationers in Cleveland was in progress, in connection with an indictment handed down against a local group of stationers early in 1954. Mr. Rosenblatt had been informed prior to his conversation with the two 3M representatives that there was a patent suit pending between 3M and Tech Tape. Since the conversation Anchor has purchased mainly one line of tape, 3M, but it has also purchased Tech tape to fill certain contracts on which Anchor submitted bids. There was some testimony that Anchor had sent a drop shipment order for 1152 rolls of 3M's tape for a small restaurant next dor to Anchor's place of business (the inference being that the order was actually for Anchor itself), on which Anchor got an additional 7½% discount. Mr. Smith testified that the discussion with Rosenblatt and the differences between them had to do with the matter of Anchor's substituting Tech tape on orders for 3M tape, and also using fake drop shipments, all of which Anchor agreed to stop; and that 3M has never refused to sell Anchor.

Three representatives of the *Crown Office Supply Company*, of Chicago, Illinois, Mr. Avery, President, Mr. Ackerman, Vice-President, and Mr. Schultz, a purchasing officer, testified by deposition, in part as follows: The company first sold 3M's Scotch tape in the early 1930's. In 1939 or 1940 they sold defendant's "masking" tape. They ceased making purchases from defendant in December 1952. After the Tech line of products was taken on by Crown, 3M's products were

A jobber who resorted to the disparagement of defendant's products in order to substitute other and cheaper brands of tape, including infringing brands of tape, where

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no longer advertised in Crown's circulars but Tech Tape's were. Crown's twelve salesmen at the same time were instructed to tell their customers that Tech's line was a good line, comparable to what Crown had been selling (3M's), but sold at a lower price. When a customer asked for "Scotch" tape, defendant's product, Crown's salesmen would try to sell him the Tech tape product. Money-wise it was to Crown's advantage to push Tech tape. Crown had theretofore purchased an average of $30,000 to $40,000 of 3M tapes a year.

In December 1952 two representatives of defendant called upon Crown with a Crown trade circular. Crown's business with 3M had fallen off in the last few months. Crown's circular was pushing Technical Tape's products and did not mention 3M's. Crown allegedly was told that if it continued selling Tech tape the defendant would not sell Crown any more. Orders sent 3M were refused.

Mr. Smith, for defendant, testified that Crown was substituting Tech tape on customers' orders for Scotch tape, and that Crown was told that unless it stopped that practice, defendant did not want to do business with it. Crown also, according to Mr. Smith, had submitted false drop-delivery orders to 3M, in order to gain an additional discount. Crown had put out the trade booklet above mentioned. Mr. Smith sent a representative to protest against these unfair and discriminatory practices.

Plaintiff also took the deposition of Mr. Christensen, Treasurer and Chairman of *Aviation Service Supply Company* of Denver, Colorado. At one time the company carried the tape products of Industrial Tape Corp., 3M and Tech Tape Corp. It is no longer an authorized distributor of 3M products. Aviation tried to become a distributor for 3M, but defendant was unable to meet the requirements of its current jobbers. Aviation then became a distributor for Industrial Tape and sold as much as $7,000 a month of its products. Late in September 1953, Aviation agreed, at the request of several customers, to become a distributor of 3M [illegible]ucts. An arrangement was made, expressed in correspondence.

In the Spring of 1954 a representative of 3M called on Christensen concerning a bid in which Aviation had quoted and specified Tech tape. Christensen testified that further visits were made and that he was informed that because of Aviation's activities with competing lines, 3M felt it could not properly represent and promote 3M's products and that it was no longer an authorized distributor and could return 3M merchandise for credit. There was some correspondence between the two companies.

the customer wanted defendant's tapes; a jobber who did not deal fairly with defendant's products in displaying and selling them; a jobber who was more interested in pushing the sales of competitors' products to the detriment of defendant's products; a jobber with only a few customers, who made no effort to sell defendant's product; a jobber who faked so called "drop shipment" orders to mislead the defendant and thus gain a larger discount; a jobber who was habitually delinquent in paying his bills—jobbers who did any of those things were not desirable distributors of defendant's products and defendant was not required to continue them as distributors.

A "drop shipment" order called for direct shipment of 3M's products to the jobber's customer. The jobber would receive a trade discount on such orders, because as a rule they were large and saved 3M warehousing expense. Some jobbers submitted fictitious orders and thereafter picked up the goods themselves to be utilized as stock inventory, thereby receiving a trade discount which was not given on purchases by jobbers for their own stock inventory.

The so-called "select distributorship policy" concerning which Al Drew was examined, was developed by the Industrial Tape Division about mid-summer of 1953. It did not apply to any other tape division of the 3M organization. Two of the five distributors (Aviation and Crown), alleged to have been cut-off because of their refusal to agree

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On Christensen's cross-examination it was developed that at times Aviation's salesmen would attempt to sell Tech tape to customers who had specified 3M tape; that Aviation permitted its office facilities to be utilized by Tech Tape sales representatives as a base of operations, and that Aviation had been tardy in paying its bills to 3M. When Aviation and 3M came to a parting of the ways in March 1954, Mr. Christensen wrote 3M: "We wish to thank you for past favors you have rendered our company and wish to express our regrets for the circumstances which had made this necessary." On the same day Mr. Christensen wrote Tech Tape a letter condemning defendant and enclosing copies of Aviation's correspondence with defendant, for plaintiff's use. Mr. Smith knew none of the details of the Aviation Company matter.

to the select distributorship policy, were not industrial jobbers within the jurisdiction of 3M's Industrial Tape Division.

As to the three remaining, Southern was cut-off from 3M's tape products in December of 1953 for reasons stated herein in footnote 7. There is nothing in the testimony to support plaintiff's contention that Southern was cut-off because it refused to accept the so-called "select distributorship policy." Likewise there was no connection between Edwards being cut-off as a 3M distributor and the select distributorship policy of the 3M Industrial Tape Division. Edwards was cut-off for other reasons, as indicated in footnote 7, some four or five months prior to the time the "select distributorship policy" was proposed by 3M's Industrial Tape Division.

The testimony of Arnold and his wife (*Lloyd's Office Supply Co.*) that in September of 1953 he was informed that 3M had a new company policy and that under such policy Lloyd, if it wished to continue selling 3M tape would have to agree to stop selling Technical Tape, and that when he refused he was cut-off, was inconsistent with the testimony of Al Drew, who denied that any proposal of select distributorship was made to Lloyd's Office Supply Company, and was inconsistent with the testimony of Bennison and Smith, witnesses at the trial, who testified that 3M does not have a sales policy requiring a jobber or distributor to sell only 3M tape and to refrain from selling other competitive brands. Apparently the trial judge accepted the testimony of Messrs. Bennison and Smith, which he had a right to do. He saw and heard the witnesses in question.

As stated in *International Bureau* v. *Bethlehem Steel Co.*, 2 Cir., 192 F. 2d 304, 306:

> "It is a familiar principle that on appeal in cases tried by the court without a jury findings of fact will be given effect unless shown to be clearly erroneous.

[citing cases]. And, indeed, that principle, together with the correlative one that due regard be given to the opportunity of a trial judge in a non-jury case to determine the credibility of witnesses who appear and testify before him, is firmly embodied in Rule 52(a) F. R. C. P., 28 U. S. C. A."

The trial judge did not specifically discuss Al Drew's testimony[8] in his opinion, but he did state (as a finding

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8 The witness, Albert Drew (a brother of the inventor) whose deposition was taken by plaintiff, stated in the first part of his deposition, that he had submitted to a number of jobbers in New England the proposal that they handle only 3M's pressure-sensitive adhesive tape.

He was asked by plaintiff's counsel whether he had made any "gentlemen's understandings or agreements" with any jobbers or distributors to handle 3M tape exclusively. Drew answered: "In this respect: That we have proposed certain things and they have or have not accepted them." When asked what things he had proposed, Drew answered: "We have proposed to certain distributors that we think are qualified that we furnish them with all the product knowledge we have as salesmen; the facilities of our laboratory; the facilities of our customer engineering group, our merchandising group, and our sales force, and to teach them as much as we can of what we know about the application of pressure-sensitive tapes; where the customers may be found or where they are likely to be found, according to application; to make them as good salesmen for our tapes as we think we ourselves are."

Al Drew testified that these suggestions or proposals were made to jobbers or distributors in the industrial tape division; and that he first made such proposals in the middle of the summer of 1953. Prior to that time 3M provided technical service and assistance to its industrial jobbers and distributors, but in a limited way. Under the new proposal the amount of technical assistance available would be increased. Drew testified that his action in offering such proposals to certain qualified jobbers was reported to his superiors and that they did not disapprove of it.

Of the 25 or 30 who accepted the proposal, all but five or six of the jobbers had always done business with 3M and sold only 3M tape. Five or six, who agreed to give the proposal a trial, had carried pressure-sensitive tapes made by 3M competitors.

Al Drew testified that 3M's general policy with regard to industrial distributors and jobbers, handling or about to handle pressure-sensitive adhesive tape, was that the jobber or distributor have an office and a

of fact based on the evidence) that defendant distributes its products through upwards of 30,000 outlets, including 6,000 paper wholesalers and 4,000 commercial stationers; that many thousands of defendant's distributors and jobbers handle competitive tapes and that "3M" (Minnesota) has never required either that they handle its tapes exclusively; or that as a condition of buying one type of 3M tape, that they should also buy another.[9]

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warehouse; that he have a sales force of at least one, other than the owner; that he have a good credit record, that he have contact with manufacturers who would be 3M customers; that he agree to maintain an adequate stock of 3M tape items so as to properly take care of the immediate needs of its customers; that he have more than one customer using 3M products; and that the bulk of his buying or purchases should be resold to more than one customer. Mr. Drew further testified that this policy was in effect in 1950 and applies with equal force today. Drew defined an industrial distributor or jobber as one whose customers are manufacturing plants, mills and factories. He also testified that defendant did not have any policy of refusing to sell a distributor or jobber because he handled competitive tapes.

9 Mr. Smith, general manager of the Cellophane Tape Division of 3M, and Mr. Bennison, Eastern Regional Sales Manager of the Industrial Tape Division, testified before the trial judge as witnesses for the defendant 3M.

Mr. Bennison's testimony was short and he was not cross-examined. He testified that he was employed by 3M for over eighteen years and supervised the indnstrial tape sales for the Eastern Seaboard. His salesmen would call on manufacturing concerns and distributors who serviced that class of trade. He stated that sales to industrial distributors were not made on any condition that the distributor deal only in 3M tape; that the distributors who purchased 3M tape also purchased tape from others; that 3M made no tie-in sale arrangement with its distributors; that no jobber was required to handle any one type of tape in order to purchase another; and that the customers of the jobbers pretty well determined what the jobber would buy.

Mr. Smith described the managerial set up of 3M. He testified that 3M has three tape divisions, each one headed by a general manager; that he had been general manager of the 3M Cellophane Tape Division for a number of years; that one of the other two divisions dealt with insulation tape; and the third with all other types of tape; that each division had regional sales managers who in turn had district sales managers. Mr. Smith also testified that the Cellophane Tape Division had two subdivisions, the Industrial subdivision and the Wholesale

The trial record on the issue of the so-called "select distributorship policy" proposal, shows that the proposal was made only to certain jobbers or distributors, who were thought to be qualified and not to all the jobbers served by 3M's Industrial Tape Division; that the proposal was not made on any either-or basis, i.e. that if rejected the distributor would be cut off from 3M products; that the acceptance was purely voluntary on the part of the jobber; that the proposal was rejected by some distributors; that those who rejected the proposal were not cut off from 3M products; and that those who accepted the proposals received increased technical service and assistance while those who rejected the proposals, together with other jobbers or distributors who did not qualify, continued to receive 3M

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and Retail subdivision; that each of the subdivisions had its own general manager; that the Wholesale-Retail subdivisions serviced the retail trade through jobbers, and sold principally cellophane tape; that the Industrial division sold to manufacturers through jobbers or distributors, whose sales are mainly of tapes, other than cellophane, although they may also sell cellophane tape to industrial users; and that Al Drew was a district sales manager for the Industrial Tape Division.

Mr. Smith also testified that 3M did not require its distributors or jobbers to handle 3M tape exclusively; that many thousands of them carried competing brands; that no jobber is required to buy any other type of 3M tape in order to buy a particular type; that some jobbers handled only one type of 3M tape; that the jobber himself decides what he wants to buy, based on his customers' needs. Mr. Smith also testified that 3M never had any policy of exclusive distributorship for a given territory; that any jobber or distributor may purchase 3M tape, if he can qualify as such.

Smith further testified that while district sales managers possessed a discretion as to how they would handle their own accounts, they were supposed to conform to established policies; that prior to December 1953 it was the policy to leave the matter of distribution and distributors to the field managers, i.e., the regional managers of 3M; that he had heard that the Industrial Tape Division was operating under what they called a select distributorship policy, but that it did not apply to his Wholesale-Retail Division, although some distributors were in both divisions. The select distributorship policy involved a closer cooperation with the distributor in terms of direct selling, engineering services, technical assistance and the like; the select distributors did not carry 3M tapes exclusively.

products and the technical service and assistance theretofore given them. This fact situation in the case at bar is in no way comparable to that before the Third Circuit in *F. C. Russell Company* v. *Consumers Insulating Company, supra.*

The trial judge also found that a large percentage of distributors identified by the President of Technical Tape as 3M distributors in the New York area are, according to his testimony, also distributors of Technical Tape's products; and that many Technical Tape jobbers or distributors also handle 3M products.

The trial court's opinion refers to the practices condemned by the doctrine of the *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U. S. 488 (which declared that a court of equity will not lend its aid to protect a patent monopoly when the patentee is using the patent as an effective means of restraining competition with the sale of its unpatented articles) the trial court stated: "There has been a complete failure of proof that the sales policy of 3M falls within the interdicted conduct." And there is no proof that defendant violated Section 3 of the Clayton Act (15 U. S. C. § 14).[10] In fact the proof is to the contrary. The defense of

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10 § 14. SALE, ETC., ON AGREEMENT NOT TO USE GOODS OF COMPETITOR. It shall be unlawful for any person engaged in commerce, in the course of such commerce, to lease or make a sale or contract for sale of goods, wares, merchandise, machinery, supplies, or other commodities, whether patented or unpatented, for use, consumption, or resale within the United States or any Territory thereof or the District of Columbia or any insular possession or other place under the jurisdiction of the United States, or fix a price charged therefor, or discount from, or rebate upon, such price, on the condition, agreement, or understanding that the lessee or purchaser thereof shall not use or deal in the goods, wares, merchandise, machinery, supplies, or other commodities of a competitor or competitors of the lessor or seller, where the effect of such lease, sale, or contract for sale or such condition, agreement, or understanding may be to substantially lessen competition or tend to create a monopoly in any line of commerce. Oct. 15, 1914, c. 323, § 3, 38 Stat. 731."

"misuse" by defendant of its Drew II patent, appears to be something that plaintiff sought in vain to construct, in order to escape the consequences of its own deliberate and profitable infringement.

A manufacturer has the right to stop dealing with a distributor or jobber who is acting unfairly towards his product or is trying to undermine his trade. That seems to be a proper corollary of *Eastern States Lumber Ass'n* v. *United States*, 234 U. S. 600 at page 614, where it was held that:

> "A retail dealer has the unquestioned right to stop dealing with a wholesaler for reasons sufficient to himself, and may do so because he thinks such dealer is acting unfairly in trying to undermine his trade."

Ordinarily a manufacturer may refuse to deal with a distributor or jobber for reasons sufficient to himself. *United States* v. *Colgate & Co.*, 250 U. S. 300, 307; *United States* v. *Schrader's Son, Inc.*, 252 U. S. 85, 97; and *Brosious* v. *Pepsi-Cola Co.*, 3 Cir., 155 F. 2d 99, 101-102. Of course, this right of a manufacturer must be exercised in good faith, and within the restrictions of the Clayton Act, and may not be exercised in such a manner so as to "substantially lessen competition" or "tend to create a monopoly" in any line of commerce.

The record in the case does not establish that 3M's refusal to sell to five of the abovenamed distributors was done in bad faith, and had as its purpose to substantially lessen competition, or had a tendency to create a monopoly. Further, the Clayton Act was not intended to reach every remote lessening of competition. *Standard Fashion Co.* v. *Magrane-Houston Co.*, 258 U. S. 346, 356-357.

There has been no showing here that "competition has been foreclosed in a substantial share of the line of com-

merce affected," by the so-called select distributorship policy. *Standard Oil Co.* v. *United States*, 337 U. S. 293; *Dictograph Products* v. *Federal Trade Commission*, 2 Cir., 217 F. 2d 821, 825. This is not a case where the manufacturer imposed a uniform exclusive dealing contract on its jobbers and distributors, such as was the situation in the *Dictograph* and *Russell* cases, hereinbefore cited, on which plaintiff relies.

The judgment of the District Court is in all respects affirmed.

District Court Opinion Below

[Record, pages 5869-5896]

BICKS, *D. J.*

Technical Tape Corporation, hereinafter referred to as "Tech Tape", seeks a judgment declaring that United States Patent 2,177,627 is invalid and not infringed by the product it manufactures and markets under the trade name "Tuck". Minnesota Mining & Manufacturing Company, the defendant, which will be referred to as "3M", has counterclaimed for an injunction against further infringement and damages.

The patent has been subjected to judicial scrutiny by the Courts in the Seventh Circuit and consistently upheld. *Minnesota Mining & Manufacturing Company* v. *International Plastic Corporation*, 62 F. Supp. 34 (N. D. Ill. 1945) aff'd, 159 F. 2d 554 (7th Cir. 1947); *Minnesota Mining & Manufacturing Company* v. *Pax Plastics Corp.*, 65 F. Supp. 303 (N. D. Ill. 1946) aff'd, 159 F. 2d 554 (7th Cir., 1947); *Minnesota Mining & Manufacturing Company* v. *Neisner Bros., Inc.*, 101 F. Supp. 926 (N. D. Ill. 1951) and 122 F. Supp. 752 (N. D. Ill. 1954). Plaintiff's procedural agility [See *Minnesota Mining & Manufacturing Co.* v. *Technical Tape Corp.*, 123 F. Supp. 497 (N. D. Ill. 1954); *Technical Tape Corp.* v. *Minnesota Mining & Manufacturing Co.*, 200 F. 2d 876 (2d Cir. 1952)] has been rewarded with an opportunity to litigate its claims before a tribunal unfettered by its own prior determinations.

The patent was issued on October 31, 1939 to 3M as assignee of Richard Gurley Drew, one of its employees, and will be referred to as the "Drew Patent". The application was filed February 18, 1938 as a division of a co-pending application filed June 10, 1933 and was in part a continuation of a co-pending application filed May 1, 1931. The invention relates to "adhesive sheets having a backing with a non-fibrous surface (such as normal or waterproofed

films of regenerated cellulose) and a coating of normally tacky and pressure-sensitive adhesive united thereto. While not limited thereto, the invention relates especially to transparent adhesive sheets, to adhesive sheets in the form of adhesive tapes which may be sold in stacked or coiled form, and to adhesive sheets or tapes which are well adapted to the sealing or securing of wrappers composed of non-fibrous lustrous cellulosic films and the like". The specification recites that "[A]n object of the invention is to provide a unified adhesive coating possessed of such coherence in relation to adhesiveness and so firmly united to its backing that the adhesive sheet may be stripped from smooth non-fibrous surfaces (not possessing special chemical affinity for the adhesive), to which it may have been temporarily applied, without offsetting of adhesive material. Hence the adhesive coating may be termed 'non-offsetting', and this expression designates an important physical or physico-chemical property or characteristic of the adhesive coating, namely, that its coherency is greater than its adhesiveness."[1] 3M markets the invented article under the well-known mark "Scotch Brand Cellophane Tape".

Succinctly, the issues in this case are: (1) Is the Drew Patent valid; (2) If valid, has it been infringed by Tech Tape; and (3) Assuming validity and infringement, has the conduct of 3M been such as to disentitle it to relief against Tech Tape.

Plaintiff founds its claim of invalidity principally on the grounds that: (i) the alleged invention is not a patentable advance over the art because it required no special skill nor any "inventiveness".

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[1] A detailed description of the discovery disclosed in the patent and the inventor's claims are set out at length in the opinions first cited in the text; a repetition thereof would unduly and unnecessarily prolong this opinion.

(ii) the product claimed in the patent was patented and described by others in printed publications in this and foreign countries before the claimed invention thereof by Drew.

(iii) the alleged invention of the patent was (a) patented or described in a printed publication in a foreign country and (b) in public use more than two years prior to its filing date;

(iv) what the patent discloses as invention was developed by others;

(v) claim 9 of the patent defines an inoperative and useless product and was deliberately included, wherefore acceptance of the patent with such claim was not without deceptive intention;

(vi) what the patent discloses as invention is the same as is covered by the Drew Masking Tape Patent 1,760,820; and

(vii) the specification of the patent lacks the full, clear and concise description required by 35 U. S. C. A. § 112. These contentions will be treated seriatim.

The first ground of alleged invalidity is the not uncommon one urged against an article which is a plurality of well-known elements. It is a mere "aggregation", plaintiff argues, of cellophane and an adhesive—neither of which Drew claims to have invented—in which the two elements retain their original characteristics and perform exactly the same functions they possessed and performed before being brought together in the assembly. 3M, on the other hand, contends that the amalgamation produces a new article, not then previously in existence, possessing qualities and utility different than the components standing alone. Novelty for the adhesive or of any ingredient thereof per se or of the film backing per se is not claimed, but

rather in the combination whereby a new article is produced. To discuss this issue in terms of "aggregation" or "combination" can lead to nothing but confusion. See, *A & P Tea Co.* v. *Super Market Corp.*, 340 U. S. 147, 151 (1950). The efforts of the industry to find an article of the utility possessed by the one described in the Drew Patent, the general need and extensive market for such article and the availability of materials to produce it furnish a more helpful guide.

As Judge Learned Hand observed in *Safety Car Heating & Lighting Co.* v. *General Electric Co.*, 155 F. 2d 937, 939 (2d Cir. 1946): "In appraising an inventor's contribution to the art, * * * the most reliable test is to look at the situation before and after it appears. * * * Courts, made up of laymen as they must be, are likely either to underrate, or to overrate, the difficulties in making new and profitable discoveries in fields with which they cannot be familiar; and, so far as it is available, they had best appraise the originality involved by the circumstances which preceded, attended and succeeded the appearance of the invention. * * * [T]his approach is more reliable than a priori conclusions drawn from vaporous, and almost inevitably self-dependent, general propositions."[2]

DuPont commenced marketing normal cellophane in 1924 and moisture proof cellophane in 1927. The latter type was especially adapted to the packaging of food products where protection against moisture loss or absorption was desired. That purpose, to be accomplished effectively,

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[2] See also *Landis Mach. Co.* v. *Parker-Kalon Corp.*, 190 F. 2d 543, 546 (2d Cir. 1951) per L. Hand, J.: "* * * [We] have over and over again resorted to the history of what went before, the duration of the period during which the invention was needed but failed to appear and its acceptance when it did. These circumstances have seemed to us, not indeed an absolute determinant of invention, for there is none; but at least the best, and indeed almost always the only, rational approach to a solution."

required a satisfactory seal for the cellophane wrapping. None was available. Instead, a confectioner's fold with a paper or rubber band was employed. Its search for such a seal led DuPont in 1926 to send samples of moisture proof cellophane to various adhesive manufacturers. It tried itself to develop such a seal but met with two obstacles which it could not surmount—bad odor of the adhesive and excessive dwell time for the adhesive to take hold. DuPont's adhesives chemist worked on the problem but the possibility that the solution lie in development of a pressure-sensitive cellophane backed adhesive tape didn't occur to him. Self deprecatingly he testified, "Somebody asked me why didn't it and I said I was too dumb".

Then came Drew who, although he refers to himself as a "tinkering fool" and "more of a cook than a chemist", has already invented paper backed masking tape. In June or July 1929 a paper jobber faced with the problem of producing a wrapper sufficiently waterproof to withstand submersion in water for a given time sought Drew's aid. About the same time Drew's superior, in quest for a wrapping which would keep moisture from rolls of masking tape obtained a quantity of waterproof cellophane from DuPont. This was Drew's first introduction to cellophane and he promptly related moisture proof cellophane to the problem which the paper jobber had presented to him. He "smeared" some adhesive on a strip of the cellophane and through trial and error ultimately evolved a theretofore unknown article—cellophane backed pressure-sensitive adhesive tape, aggressively and permanently tacky when fully dried, with an adhesive layer more highly cohesive than adhesive which could be wound and unwound and removed from surfaces without delamination or offsetting of adhesive. It filled the need for the satisfactory seal DuPont was looking for and introduced a new kind of tape of such inherent merit and versatility as to become common place in the home and office.

DuPont had every incentive to come upon the article disclosed in the Drew patent. Notwithstanding that it had available to it the materials, the scientific personnel and the consultation of Brandenberger, one of the earliest producers of cellophane and the patentee of the patent strenuously urged here as anticipation of the Drew invention, it failed to make Drew's discovery.

It cannot successfully be controverted that prior to the advent of the article disclosed in the patent, cellophane had not been used as a backing in combination with an aggressively tacky and strongly cohesive rubber-resin type adhesive. The prior self adhering normally tacky adhesive tapes had a cloth or paper backing. The tacky adhesive penetrated the surface of the backing and obtained a mechanical anchorage due to the porosity and fibrous nature of the backing. The non-adhesive surface was not flat and consequently when the tape was wound in a roll there were only points of, rather than total, contact with the pressure-sensitive adhesive. Because there was a mechanical differential and an area differential between the two sides of the tape the roll could be unwound without delamination of the adhesive. Persons skilled in the adhesive tape art were committed to the thinking that mechanical anchorage was a *sine qua non* of an acceptable non-delaminating and non-offsetting adhesive sheet or tape. Drew also was of that mind on May 28, 1928 as evidenced by the caveat contained in the application he filed on that date for his masking tape patent, *viz.*, "An over-sufficient saturation of the paper will render the surface unfit for subsequent coating • • •" (U. S. Patent 1,760,820, p. 5, lines 124-126.

It may be that Drew employed a backing with a non-fibrous surface contrary to the precepts of the art precisely because he was "more of a cook than a chemist". That a person having ordinary skill in the art would "know

better" than to attempt it does not negative patentability.[3] In retrospect, it would seem that what Drew did was simple and no more than the obvious. "Its simplicity should not blind us as to its character. Many things, and the patent law abounds in illustrations, seem obvious after they have been done * * *. Knowledge after the event is always easy, and problems once solved present no difficulties, indeed, may be represented as never having had any, and expert witnesses may be brought forward to show that the new thing which seemed to have eluded the search was always ready at hand and easy to be seen by a merely skillful attention." *Diamond Rubber Co.* v. *Consol. Tire Co.*, 220 U. S. 428, 434-5 (1911). See also *Goodyear Tire & Rubber Co.* v. *Ray-O-Vac Company*, 321 U. S. 275, 279 (1944).

The claims in the Drew patent meet the "rather severe test" and conform to the standard of invention for combination patents enunciated in *A & P Tea Co.* v. *Super Market Corp.*, supra. Whether 35 U. S. C. A. § 103 lowered the standard of invention is an inquiry, therefore, which need not be pursued in this case. *Vermont Structural Slate Company, Inc.* v. *Tatko Brothers Slate Company, Inc.*, 233 F. 2d 9 (2d Cir. 1956). Compare *Welsh Manufacturing Company* v. *Sunware Products Co.*, —— F. 2d —— (2d Cir. July 9, 1956), *Lyon* v. *Bausch & Lomb Optical Co.*, 224 F. 2d 530, 535, 536 (2d Cir. 1955) cert. denied, 350 U. S. 911 (1955), and *L-O-F Glass Fibers Company* v. *Watson*, 228 F. 2d 40 (D. C. Cir. 1955), with *Wasserman* v. *Burgess & Blacher Co.*, 217 F. 2d 402 (1st Cir. 1954), *Interstate Rubber Products Corp.* v. *Radiator Specialty Co.*, 214 F. 2d 546 (4th Cir. 1954), *General Motors Corp.* v. *Estate Stove Co.*, 203 F. 2d 912 (6th Cir. 1953) and *Stanley Works* v. *Rockwell Mfg. Co.*, 203 F. 2d 846 (3d Cir. 1953).

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[3] "Patentability shall not be negatived by the manner in which the invention was made." 35 U. S. C. A. § 103.

District Court Opinion Below

"Scotch Brand Cellophane Tape" has achieved phenomenal commercial success. The first year it was on the market sales were upwards of $100,000. without any advertising expense. Within ten years annual sales had increased to over $5,500,000.—advertising expense throughout this period was slightly less than 3% of sales. The wide acceptance of the product attests to its need and reflects its worth. If it can be said that the question of patentable invention in this case is a close one the very substantial commercial success enjoyed by the patented article "tips the balance" on that issue. See *Jungersen* v. *Ostey & Barton Co.*, 335 U. S. 560, 567 (1949).

As already noted the Drew Patent has been thrice adjudged valid. Implicit in said determinations is the findings that Drew's invention displays sufficient "inventiveness" to constitute a patentable advance over the art. The facts established on the trial herein support that holding.

Technical Tape pleaded or noticed forty-six references to patents and publications in support of its contention that the product claimed in the Drew Patent had been patented and described by others before Drew claims to have invented it. By pre-trial stipulation plaintiff reduced said references to the following nineteen:

FOREIGN PATENTS

1. Brandenberger 433,999 (French) delivered November 13, 1911, published January 20, 1912.

2. Kronstein 112,237 (Austrian) granted August 15, 1928, published February 11, 1929.

3. Kronstein 656,582 (French) granted January 2, 1929, published May 10, 1929.

4. Kronstein 293,293 (British) accepted March 14, 1929.

5. Grossman 372,925 (German) granted February 10, 1920, published April 3, 1923.
6. Liesegang 440,712 (German) February 10, 1927.
7. Liesegang 253,940 (British) June 19, 1926.
8. Rado 682,785 (French) granted June 2, 1930, application filed October 4, 1929.

UNITED STATES PATENTS

9. Kronstein 1,944,562 granted January 23, 1934, application filed March 13, 1928.
10. Hodgson 1,467,108 granted September 4, 1923.
11. Mantell 1,850,760 granted March 22, 1932, application filed March 21, 1929.
12. Zimmerli 1,892,123 granted December 27, 1932, application filed April 12, 1928.
13. Teague 1,746,875 granted Feb. 11, 1930, application filed June 9, 1924.
14. Healy 1,752,557 granted April 1, 1930, application filed Feb. 13, 1925.
15. Charch 1,737,187 granted Nov. 26, 1929, application filed Jan. 3, 1927.
16. Carrington Re. 3,260 granted January 12, 1869.
17. Drew 1,760,820 granted May 27, 1930.
18. Drew Re. 19,128 granted April 3, 1934.

PUBLICATION

19. Article entitled "Pearson's Crude Rubber Compounding Ingredients", published 1918 by India Rubber Publishing Co., Inc., Page 372.

District Court Opinion Below

The publication and each of the patents referred to as prior art, or the corresponding one of another country,[4] was before either Judge Barnes in *Minnesota Mining & Manufacturing Co.* v. *International Plastic Corp.*, supra, or in *Minnesota Mining & Manufacturing Co.* v. *Pax Plastics Corp.*, supra, or Judge Campbell in *Minnesota Mining & Manufacturing Co.* v. *Neisner Bros. Inc.*, supra, and was found not to anticipate the disclosures of the claims in suit. In the *International* and *Pax* suits U. S. Patent 1,850,760 to Mantell and 1,760,820 to Drew were stressed. On appeal it was held that the Mantell Patent did not relate to the adhesive tape art and that the finding of the District Court that the claims of the Drew Patent in suit were not anticipated by, and defined invention over, the Drew masking tape patent was fully supported by the evidence. In the *Neisner* case the Court noted that although the Brandenberger French Patent 433,999 had not itself been before the courts of the Seventh Circuit when the validity of the Drew Patent was sustained, similar patents, to wit, those issued to Kronstein, were considered and distinguished from the Drew Patent.[5]

In the instant case the emphasis seems to be on the Brandenberger French Patent, the Rado French Patent and the Kronstein Patents. In considering the disclosures made by these patents they are, of course, to be read unaided by the teachings of the patent which it is urged they anticipate. So viewed, Brandenberger's invention clearly relates exclusively to an insulating substance. His concern

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[4] It is not disputed that (i) the three Kronstein foreign patents contain no disclosure not present in the Kronstein U. S. patent; (ii) the Liesegang German Patent corresponds to the Liesegang British Patent specifications; (iii) Drew 1,760,820 corresponds to Drew Re. 19,128; and (iv) Rado French Patent 682,785 is essentially the same as Rado British Patent 344,469.

[5] See note 8, *infra*.

was with increasing the electrical resistance of cellulosic films or sheets. To achieve this objective he disclosed: first, the need for closing the microscopic pores which might be present in the film; second, that one of the ways of effecting such closure would be by coating the sheets with one or several layers of linseed oil, with a rubber solution, with any insulating varnish or with a mixture of these substances; third, that a closure of the pores could be obtained by bonding together two or more sheets of cellulose since the location of the pores could not coincide in the various sheets and thus an absolutely homogeneous surface would be obtained; fourth, that the sheets could be bonded by means of any adhesive substance, but, in order to increase their electrical resistance, the sheets could be coated first with linseed oil, a solution of rubber or any insulating varnish which themselves could serve as adhesives; and finally, that cellulose sheets which had been treated in such a process so as to present a surface coated with fatty ethers of cellulose, either nitrated or acetylated superficially, could be used instead of ordinary cellulose sheets. Such superficial etherification would result in a type of varnish which envelopes the cellulose sheet closely with an insulating layer free from any porosity and the sheet thus obtained could be used as such, as an insulating material, or they could be bonded to each other and coated like sheets of pure cellulose.

The primary function of the coating in the Brandenberger Patent is to close the pores in the cellulosic sheet and to increase its electrical resistance. The reference to the coating as an adhesive to bond the sheets is quite incidental—witness the omission of any suggested formulation for the adhesive substance or any reference to the purpose thereof other than to bond the sheets with the limited objective already indicated. "Any adhesive substance", Brandenberger pointed out, could be used. Ac-

cordingly he did not specify the recipe of the adhesive substance nor even mention whether it was to be normally tacky and pressure-sensitive or otherwise. Moreover the desirability of a substance which was more cohesive than adhesive was not presented since it was not contemplated that the sheets once bonded would be separated. Nor can it be said that Brandenberger unwittingly disclosed an adhesive which was normally tacky and pressure-sensitive and more cohesive than adhesive although he did not require or seek it. To constitute an anticipation the disclosure of prior art must be clear and certain. *Trussel Manufacturing Co.* v. *Wilson-Jones Co.*, 50 F. 2d 1027 (2d Cir. 1931). The prior patent, especially if it is of foreign issue, must teach the invention with sufficient clarity and explicitness to enable a person skilled in the art to understand its nature and carry it into practical use without the necessity of experimentation. *Allied Wheel Products* v. *Rude*, 206 F. 2d 752 (6th Cir. 1953); *Hollywood-Maxwell Co.* v. *Street's of Tulsa*, 183 F. 2d 261 (10th Cir. 1950); *Wisconsin Alumni Research Foundation* v. *Breon*, 85 F. 2d 166 (8th Cir. 1936) cert. denied, 299 U. S. 598 (1936); *Donner* v. *Sheer Pharmacal Corporation*, 64 F. 2d 217 (8th Cir. 1933) cert. denied, 290 U. S. 658 (1953). Even after the need for a cellophane tape with a coating of a normally tacky and pressure-sensitive adhesive became apparent, Brandenberger, despite his extensive research and pioneering efforts in the development and manufacture of cellophane [6] and his then role as consultant to the Cellophane Division of DuPont, failed to discern in his own patent what plaintiff's expert now claims was apparent to anyone ordinarily skilled in the art. It would serve no useful purpose to probe into the relative skill in the art of

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[6] By way of reference to the role of Brandenberger in the development of cellophane, see discussion in *United States* v. *E. I. DuPont De Nemours*, 351 U. S. (June 11, 1956).

Brandenberger and plaintiff's expert. The Court is persuaded that the vision of the latter was substantially brightened by his diligent study of the teachings of the Drew Patent, and that absent the wisdom thus acquired what is now asserted to be clear would have been as obscure to him as it was to Brandenberger and DuPont's adhesives chemist. Unless the disclosures of the Drew Patent are read into the Brandenberger Patent the only substantial similarity between them is that they each use cellulosic film. Plaintiff's brief argues what indeed is the established law, that the discovery of a new use for an old article does not justify the granting of a patent. Here, however, we find not a new use but a new article possessing characteristics and functional utility totally lacking in the old.

Plaintiff would have the Court read the Brandenberger Patent in the light of alleged admissions made by 3M in proceedings before the German Patent Office opposing the grant of a patent to one Rado. The disclosures in the Brandenberger Patent are to be gleaned from the patent itself—they cannot be extended or limited by argument or statements made by or on behalf of third persons in proceedings which do not involve the patent and to which the patentee is not a party. As an aid in interpreting the clear and unambiguous language of the Brandenberger Patent they have no probative force. Neither can they be availed of to supply disclosures which are lacking therein. Furthermore, what are relied on as admissions against interest are at best arguments of counsel [7] which examined in their entirety cannot be construed as at variance with the position of 3M in the case.

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[7] Counsel's expression of opinion do not constitute admissions against interest. *Martin* v. *Burgess*, 82 F. 2d 321 (5th Cir. 1936).

District Court Opinion Below

Judge Barnes' findings in the *Pax* case, *supra*[8] with respect to the Kronstein Patent are fully supported by the evidence in this case. Plaintiff suggests that "Judge Barnes did not have the benefit of the evidence here, such as the proof that the *inherent* property of a rubber solution is to form a normally tacky and pressure-sensitive adhesive when dried and Tierney's (defendant's expert) admission that the Kronstein coatings would produce a tacky or adhesive coating." A careful study of the record leads the Court to the conclusion that the alleged deficiency in the proof before Judge Barnes has not been supplied here.

Plaintiff's reliance on Rado French Patent 682,785, issued on February 18, 1930 and published on June 2, 1930, as prior art is necessarily grounded on the premise that the Drew Patent is not entitled to an effective filing date of May 1, 1931. Plaintiff recognizes that a true divisional application is entitled to the filing date of its parent but urges that Drew's subsequent application cannot be accorded the benefit of the earlier filing date because the disclosures in the earlier application were inoperative. The evidence is clearly to the contrary. Examples C and D in

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[8] In the *Pax* case, *supra*, at page 308, the Court found: "The Kronstein U. S. patent 1,944,562 and the equivalent British patent 293,293, do not anticipate the products of the claims in suit. They relate to an electrical insulating band or ribbon which is asserted to improve upon the prior art by using a backing of non-fibrous cellulose film (cellophane) in place of cloth or paper, and which (as in the prior art) is coated with insulating material such as rubber, linoxyn, nitro-cellulose varnish, etc. The cellophane may be coated on one or both sides, and one coating may serve as a so-called adhesive. There is nothing to suggest that the phrase 'any desired degree of adhesiveness' (page 2, col. 2, lines 34-39) implies a normally tacky and pressure-sensitive adhesive condition. The term 'adhesive' is very broad and applies to normally non-tacky adhesives (such as those of postage stamps). The coatings of these patents may retain some wet adhesiveness temporarily, but in a short time dry out to a non-tacky condition. When Kronstein uses rubber solution, he obtains a fr[illegible] set cement type of coating like Mantell."

the 1931 application were operative. An article made in conformity with example C was commercially produced by 3M between November 1930 and August 1931 and plaintiff's expert successfully made tapes following said examples.

Section 102 of Title 35 provides that "A person shall be entitled to a patent unless—(b) the invention was patented or described in a printed publication in this or a foreign country • • • more than one year prior to the date of the application for patent in the United States • • •." With respect to applications filed before August 5, 1940 and patents granted thereon, however, the applicable period is two years. Pub. Law 593, 82d Cong., 2d Sess., § 293 Sec. 4(d), 66 Stat. 815 (July 19, 1952). Under the circumstances the Rado Patent does not constitute a statutory bar.

The Court has examined the publication and the remaining patents referred to as prior art and compared each with the patent in suit. It is apparent that the Drew Patent is sufficiently distinguished from them.

The determination that the Drew Patent is entitled to a 1931 filing date is dispositive of the principal ground urged by Tech Tape in support of its contention that the invention was in public use more than two years prior to the date of the application for patent. The public use upon which reliance is placed is a sale on December 5, 1930 by 3M to *Shellmar Products Co.* Plaintiff asserts that the subject of the sale was made in conformity with Example E which was first disclosed more than two years thereafter in the 1933 application. The evidence does not sustain this allegation. It establishes that the adhesive on the article sold to *Shellmar* was not materially different from Example C in the 1931 application.

It is asserted that Drew is not the true inventor of the patent in suit. Admittedly, Drew did have other hands help him in the manual work incident to following through his

ideas and conceptions, but aid thus rendered does not elevate the helpers to the rank of inventors or co-inventors nor alter Drew's status as the sole inventor. The others worked with Drew and under his direction but made no contribution beyond physical assistance. The inventive genius resided in Drew alone.

Tech Tape's position that Claim 9 of the patent is void for want of utility or operability is not well founded. Lack of commercial success *per se* does not establish lack of utility. *O'Donnell* v. *United Shoe Machinery Corporation*, 2 F. Supp. 178 (D. Mass. 1933). Defendant established that it manufactured the article described in Claim 9 and that sometimes it performed satisfactorily and at other times it did not. Absent proof of total incapacity the defense of non-operativeness or non-utility is not available. *National Slug Rejectors* v. *A. B. T. Mfg. Corporation*, 164 F. 2d 333 (7th Cir. 1947) cert. denied, 333 U. S. 832 (1948); *Emery Industries* v. *Schumann*, 111 F. 2d. 209 (7th Cir. 1940); *In re Oberweger*, 115 F. 2d 826 (C. C. P. A. 1940); Walker, *Patents*, § 67 (Deller ed. 1937).

The charge of double patenting has not been substantiated. The Drew Masking Tape patent refers to an adhesive sheet as a new article of manufacture comprising a unified paper backing with a pressure-sensitive adhesive coating united to one surface thereof. The patent in suit discloses as a new article of manufacture a non-fibrous sheet. The difference is not merely semantic. As has already been indicated the art prior to the Drew patent led away from cellophane—a fiber tree film—as a backing for a pressure-sensitive normally tacky non-offsetting and non-delaminating adhesive tape. The article of the Drew Patent was unknown to the inventor when he filed his application for the Masking Tape patent and is not disclosed therein. The substantial dissimilarity of the claims in the two patents conclusively refutes the suggestion of double patenting. *Western Electric Co.* v. *General Talking Pic-*

tures Corp., 91 F. 2d 932 (2d Cir. 1937), aff'd 304 U. S. 175 (1938).

Plaintiff's final ground of asserted invalidity is that the patent fails to make the "full, clear, concise and exact" description of the alleged invention required by 35 U. S. C. A. § 112. Testimony of Tech Tape's expert that he successfully made tape with the formulae set out in Examples C, D and E demonstrates that the specification of the invention and the manner and process of making any use of it is sufficient to enable a person skilled in the art to which the invention pertains to make and use the same. No more is required. A similar claim of non-compliance with the statutory standard for clarity and exactitude was treated at some length and rejected in the *International* case, 159 F. 2d 554, 558. The later decision of the Supreme Court in *Faulkner* v. *Gibbs*, 338 U. S. 267 (1949)[9] and 35 U. S. C. A. § 112,[10] effective January 1, 1953, underscore the soundness of that determination.

The contention of 3M that the accused product infringes is resisted by a demonstration of the absence of

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[9] As was argued in the *International* case, Tech Tape urges that the claims of the Drew Patent do not meet the requirements of *Halliburton Oil Well Cementing Co.* v. *Walker*, 329 U. S. 1 (1946). In discussing *Halliburton* the Supreme Court stated in *Faulkner* v. *Gibbs*: "We there held the patent invalid because its language was too broad at the precise point of novelty. In the instant case, the patent has been sustained because of the fact of combination rather than the novelty of any particular element." The same may be said of the patent in suit.

[10] Section 112 provides: "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claims shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." The language of the Act suggests a greater liberality in the use of functional expressions in combination claims. See Commentary on The New Patent Act, 35 U. S. C. A., p. 25.

outright duplication. That Tuck Tape is substantially identical with the tapes which were held as infringements of the Drew Patent in the *Pax* and *Neisner* cases, *supra*, is admitted in the pleadings. Indeed, in its brief plaintiff admits that if its product had been before the Court in either of said cases it would have been adjudicated an infringement. The accused product serves the identical purpose and in exactly the same manner as does Scotch Brand Cellophane Tape. The two products look alike and for all practical purposes cannot be distinguished except by a trained chemist. Tech Tape simulates as best it can the dispensing and marketing techniques employed by 3M. The difference between the two products resides solely in the composition of the adhesive. Tech Tape claims to have employed two kinds of adhesive; one of rubber-resin and the other made from polyvinyl ether polymers which is all synthetic resin and has no rubber. As to the former the distinction claimed is in the type of rubber and resin used; with respect to the latter that it is all synthetic resin and no rubber. The substituted components of the adhesive serve the same functions and have the physical properties characteristic of the pressure-sensitive adhesives of the "rubber-resin" type suggested in the patent. Some of the claims of the patent call for "rubbery base" adhesive, others for a "rubber-resin" type adhesive, and others merely for a non-offsetting normally tacky and pressure-sensitive water-insoluble transparent flexible adhesive coating. As Judge Campbell stated in the *Neisner* case, *supra*, at 928:

> "The normal construction of the expression 'rubbery base' is that the product is similar to rubber at least in some of its physical properties as, for example, in its elasticity, stretchiness and the like. The adhesive coating of the accused tape clearly fulfills such a description. Similarly, the term 'rubbery-resin type' adhesive properly indicates an adhesive having the

physical properties of rubber-resin adhesives, which properties defendant's coating patently possesses. Furthermore, the use of 100% resin, natural or synthetic, rather than the suggested proportions of rubber and resin as described in the Drew patent, might be more accurately denoted as merely a change in degree rather than in kind."

Infringement cannot be avoided by the mere introduction of minor variations nor by the use of equivalents which function similarly as the original. *Graver Tank & Mfg. Co. Inc.* v. *Linde Air Products Co.*, 339 U. S. 605 (1950), rehearing den., 340 U. S. 845 (1950); *Finkelstein* v. *Kress*, 113 F. 2d 431 (2d Cir. 1940).

By way of reply to 3M's counterclaim for an injunction against further infringement and damages Tech Tape asserts that 3M has unlawfully attempted to extend its patent monopoly of cellophane tape to cover products not covered by any valid claim thereof. It seeks to invoke the doctrine enunciated in *Morton Salt Co.* v. *G. S. Suppiger Co.*, 314 U. S. 488 (1942) that a Court of equity will not lend its aid to protect a patent monopoly when the patentee is using it as an effective means of restraining competition with its sale of an unpatented article. To prevail in this position, therefore, Tech Tape must establish that 3M used the Drew Patent in an attempt to monopolize the sale of unpatented tapes or to gain some market or other advantage over other competitors in the field of the unpatented article. *Automatic Radio Manufacturing Co. Inc.* v. *Hazeltine Research, Inc.*, 339 U. S. 827 (1950), hearing den., 340 U. S. 846 (1950). Short of a refusal to sell its Scotch Brand Cellophane Tape unless the purchaser also bought its unpatented tapes, or a refusal to sell unpatented tapes unless the purchaser deals in Scotch Brand Cellophane Tape to the exclusion of cellophane or other tapes of other manufacturers, the *Morton Salt* case doctrine is inapposite.

District Court Opinion Below

There has been a complete failure of proof that the sales policy of 3M falls within the interdicted conduct. 3M distributes its products through upwards of 30,000 outlets. Included among them are more than 6000 paper wholesalers and 4000 commercial stationers. Many thousands of 3M's distributors and jobbers handle competitive tapes and 3M has never required either that they handle its tapes exclusively or as a condition of buying one type of tape that they also buy any other. A large percentage of distributors identified by the President of Tech Tape as 3M distributors in the New York area are, according to his testimony, also distributors of Tech Tape's products. He further testified that many Tech Tape jobbers or distributors also handle 3M products. Of the large number of 3M distributors over the approximately three year period preceding the trial Tech Tape points to seven, who in the aggregate account for a relatively minutial portion of the total 3M tape business, to establish its contention. The situation with respect to each of these seven distributors has been considered and the Court is satisfied that the conduct of 3M in each instance was motivated solely by honest business considerations in no wise related to an attempt to extend the monopoly of the Drew Patent.

The Drew Patent is valid and infringed. A decree for an injunction and an accounting may be submitted in accordance with this Opinion. Decision on whether the damages found should be increased pursuant to 35 U. S .C. A. § 284 is deferred until the coming in of the Master's report. See *Patterson-Ballagh Corp.* v. *Moss,* 201 F. 2d 403, 408 (9th Cir. 1953) and cases cited.

The foregoing shall constitute Findings of Fact and Conclusions of Law in accordance with Fed. R. Civ. P. 52(a).

Dated: July 18, 1956.

s/ ALEXANDER BICKS,
United States District Judge.

Judgment Below

[Record pages 5924-5927]

This cause came on to be heard by the Court, sitting without the intervention of a jury, in a trial of five weeks' duration, was argued and briefed by counsel; thereupon, upon consideration of the entire evidence, stipulations, exhibits, and the entire record in the case, as well as the briefs and arguments of counsel for the respective parties, and the Court having heretofore made and filed its Opinion to stand as Findings of Fact and Conclusions of Law under Rule 52(a) as the same appears of record herein, and which Opinion is made a part hereof by reference thereto;

IT IS, THEREFORE, ORDERED, ADJUDGED AND DECREED, AS follows:

1. This Court has jurisdiction of the parties and of the subject matter stated in the Complaint, Amended Complaint and Supplemental Complaint and in the Counterclaim of the defendant.

2. United States Letters Patent No. 2,177,627 issued to the defendant, Minnesota Mining and Manufacturing Company, on October 31, 1939, upon the application of Richard Gurley Drew, was in all respects duly and lawfully issued and is good and valid in law as to every claim thereof except claim 9 as to which no adjudication of validity is made, no infringement of said claim having been found; and is enforceable in all respects by the defendant as sole and exclusive owner of the entire right, title and interest therein.

3. The plaintiff, Technical Tape Corporation, since prior to the time the defendant's Counterclaim was filed herein, has manufactured, used and sold transparent and colored non-fibrous, film-backed, pressure-sensitive adhe-

sive tape (as detailed in paragraphs 5 and 9 of the Agreed Statement dated November 16, 1954 and filed herein, and as exemplified by Defendant's Exhibits G, H, I, J, K, L, M, N, O, P, Q, DDDD, EEEE, D6 and E6 herein) in infringement of claims 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15 and 16 of said patent.

4. The defendant and counterclaimant has not been guilty of inequitable conduct; has not come into Court with unclean hands; and is not barred in any respect from enforcing the said patent.

5. A Writ of Injunction is ordered issued out of and under the seal of this Court directed to the plaintiff Technical Tape Corporation, permanently enjoining and restraining, until the expiration of the patent-in-suit, it, its officers, agents, servants, employees and attorneys, and those persons in active concert or participation with them, who receive actual notice of this decree and order by personal service or otherwise from directly or indirectly making, using, selling, offering for sale, or directly or indirectly causing to be made, used, sold or offered for sale any transparent or colored non-fibrous, film-backed, pressure-sensitive tape or sheeting the same as the pressure-sensitive adhesive tape or sheeting exemplified by Defendant's Exhibits G, H, I, J, K, L, M, N, O, P, Q, DDDD, EEEE, D6 and E6, or any other transparent or colored non-fibrous, film-backed, pressure-sensitive adhesive tape or sheeting utilizing or embodying the invention of claims 1, 2, 3, 4, 5, 6, 7, 8, 10, 11, 12, 13, 14, 15 and 16 of said Letters Patent No. 2,177,627, or from in any way or manner infringing upon any of said claims of said Letters Patent, or from contributing to the infringement of or encouraging, inducing or aiding or abetting the infringement of such Letters Patent in any way or manner whatsoever. The Clerk of

this Court is directed forthwith to issue out of and under the seal of this Court its Writ of Injunction directed and commanded as herein provided.

6. The defendant and counterclamant, Minnesota Mining and Manufacturing Company, shall have and recover from the plaintiff, Technical Tape Corporation, the damages which it has sustained by reason of the aforesaid infringement; and the question of whether damages shall be increased pursuant to 35 U. S. C., Section 284, because of the nature of such infringement, is deferred until the coming in of the Master's report.

7. This cause shall be referred to Dwyer S. Shugrue, Esq., 12 East 41st St., N. Y. C. as Special Master, to ascertain the damages adequate to compensate the defendant for the plaintiff's infringement.

8. The defendant shall recover of the plaintiff the taxable costs of the defendant incurred in this suit, and such costs and expenses as may be incurred by the Special Master in connection with his services herein; and the defendant shall have judgment and execution therefor.

9. Defendant's application for attorney's fees is denied.

10. The plaintiff's Complaint, Amended Complaint and Supplemental Complaint are hereby dismissed at plaintiff's costs.

Enter:

/s/ ALEXANDER BICKS,
United States District Judge.

July 26, 1956.

UNITED STATES COURT OF APPEALS

For the Second Circuit

Technical Tape Corporation,
Plaintiff-Appellant,

vs.

Minnesota Mining and Manufacturing Company,
Defendant-Appellee.

Before Medina and Waterman, *Circuit Judges,* and Leibell, *District Judge.*

On Petition for Rehearing.

Daniel L. Morris, New York City, Curtis, Morris & Safford, New York City, (Simon H. Rifkind, Edward N. Costikyan, Emanuel E. Sternfield, Robert D. Spille and John A. Mitchell, New York City, of Counsel), for plaintiff-appellant.

Per Curiam.

Petition for rehearing denied.

Harold R. Medina
U. S. Circuit Judge

Sterry R. Waterman
U. S. Circuit Judge

Vincent L. Leibell
U. S. District Judge

Filed: September 23 1957

U. S. Code, Title 35

102. *Conditions for patentability; novelty and loss of right to patent.*

A person shall be entitled to a patent unless—

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of the application for patent in the United States, or

(c) he has abandoned the invention, or

(d) the invention was first patented or caused to be patented by the applicant or his legal representatives or assigns in a foreign country prior to the date of the application for patent in this country on an application filed more than twelve months before the filing of the application in the United States, or

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or

(f) he did not himself invent the subject matter sought to be patented, or

(g) before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other. July 19, 1952, c. 950, Sec. 1, 66 Stat. 797.

103. *Conditions for patentability; non-obvious subject matter.*

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made. July 19, 1952, c. 950, Sec. 1, 66 Stat. 798.

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1957

No. 678

TECHNICAL TAPE CORPORATION,
Petitioner

vs.

MINNESOTA MINING AND MANUFACTURING COMPANY,
Respondent

REPLY BRIEF OF PETITIONER IN SUPPORT OF PETITION FOR WRIT OF CERTIORARI

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Introduction

Minnesota's brief contains certain misstatements of fact and law which we desire to correct.

ARGUMENT

Question 1.

Minnesota attacks the first question presented by Technical by contending that there is no evidence in the record of "tie-in arrangements, exclusive distributorships, or disproportionate service among distributors" (Resp. Brief, p. 5). This contention is incorrect.

Minnesota's industrial sales manager, Albert S. Drew (who was hostile to Technical), testified by deposition (PA 122a-126a) that Minnesota *had* made oral

exclusive dealing agreements with at least 25 to 30 industrial tape distributors in New England alone. He specifically identified Alles Corporation, Stimson, Inc., G & S Paper, H. J. Dowd, D. F. Monroe and Whitney Brothers as among those who had carried tapes competitive to Minnesota's prior to the making of such agreements (PA 123a, 125a-126a).

Minnesota also states that even its "select distributors" did not carry its tapes exclusively (Resp. Brief, p. 4). The source of this erroneous statement is a footnote in the opinion below (Pet., 26a) which purportedly summarizes the testimony of Mr. C. C. Smith, a division manager of Minnesota.

However, Smith on cross-examination (R. 3904-06) conceded that he did not know what the select distributorship policy of (Drew's) Industrial Division was, because it was not under Smith's jurisdiction. He also confessed he did not know what the Industrial Division did in implementing its policy of exclusive selling arrangements with industrial wholesalers.[1]

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[1] *Cross-Examination of Smith*

"Q. Now, what were the salesmen or the regional managers or the district managers, or all of them, told to do in connection with this selective distributor policy? A. That I don't know. I could not tell you. It was not part of the program of my Division.

Q. And you don't know what the Industrial Division does? A. Not specifically, no.

Q. And so you don't know what instructions were given—let us be sure about that—by the Industrial Division to the salesmen, or the district managers, or the regional managers in connection with that program? A. Specifically, no.

• • • • •

Q. Do you know whether any of the customers of 3M to whom this selective distributor policy had been applied have actually stopped buying tape from Technical Tape Corporation? A. I would not know that." (R 3940-41)

Moreover, Minnesota's statement that the record "is barren of tie-in arrangements, exclusive distributorships, or disproportionate service among distributors" (Resp. Brief, p. 5) is to contradict the Court of Appeals' version of the facts. That court held that "those [distributors] who accepted the proposals [of Drew] received increased technical service and assistance while those who rejected the proposals, together with other jobbers or distributors who did not qualify, continued to receive 3M products and the technical service and assistance theretofore given them"[2] (Pet., 27a-28a).

What the *quid pro quo* was for the "increased" service and assistance was succinctly answered by Albert Drew:

> "Q. In those proposals which have been accepted has the jobber or distributor agreed not to carry anything but Minnesota pressure-sensitive tape?
>
> A. Competitive to ours, yes." (PA 122a)

---

[2] Albert Drew was the sole source of this finding by the Court of Appeals. He stated:

"Q. Suppose I ask you then if you have made any gentlemen's understandings or agreements with any jobbers or distributors to handle Minnesota tape exclusively? A. In this respect: That we have proposed certain things and they have or have not accepted them.

Q. What things have you proposed? A. We have proposed to certain distributors that we think are qualified that we furnish them with all the product knowledge we have as salesmen; the facilities of our laboratory; the facilities of our customer engineering group, our merchandising group, and our sales force, and to teach them as much as we can of what we know about the application of pressure sensitive tapes; where the customers may be found or where they are likely to be found, according to application; to make them as good salesmen for our tapes as we think ourselves are". (Technical's Exhibit 42, pp. 53-54)

Albert Drew spelled out in detail what the selective distributor policy of his Industrial Division meant. Simply stated, certain wholesalers were offered (and accepted) disproportionate services if they would deal only in Minnesota's cellophane and unpatented tapes.[3] Those already dealing exclusively with Minnesota were not offered such bait. As Drew said: "It wasn't necessary. They all carried Minnesota exclusively, to my knowledge". (Technical's Exhibit 42, p. 64)

This defense was no surprise to Minnesota. It was factually pleaded in the reply to Minnesota's counterclaim, printed in our petition as footnote 6 at page 17a, and it was proved.

Finally, there is a practical relationship between patent monopoly power and exclusive dealing contracts with a patentee's wholesalers. As stated by the Third Circuit recently in the analogous case of *F. C. Russell Company* vs. *Consumers Insulation Company*, 226 F. 2d 373, at 376 (1955) ". . . it may not be assumed that the contracts and the patent came into juxtaposition inadvertently or accidentally. The parties, their dealers, distributors, and, indeed, their customers,

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[3] *Testimony of Albert S. Drew*

"Q. These suggestions were made to jobbers and distributors in the industrial field to handle Minnesota pressure sensitive tapes? A. That is right.

Q. When did you first make such proposals? A. Along in the middle of the summer of 1953.

Q. The middle of the summer of 1953? A. Yes, sir.

Q. Prior to that time did Minnesota provide technical service and assistance to industrial jobbers and distributors handling Minnesota pressure sensitive tapes? A. In a comparatively limited way". (Technical's Exhibit 42, p. 54)

are not living in a strange, non-commercial world where exclusive agreements are found under Christmas trees".

Our position was, and remains, that Minnesota's conduct violated not only Section 14 of 15 U. S. C. (the Clayton Act) but the mechanism to achieve that violation also ran afoul of Section 13(e) of 15 U. S. C. (the Robinson-Patman Act).

Question 2.

Minnesota contends that Question 2 does not emerge from the record and that the consideration of the U. S. Brandenberger patent and Minnesota's brief in another case was diligence by the Court below. We have shown in our petition that the record does support Question 2. The U. S. Brandenberger patent and Minnesota's self-serving brief, not part of the record in this case, were essential to support the erroneous conclusion that du Pont was seeking cellophane tape as "a proper sealing medium for its cellophane". (Pet., 10a). There was no evidence of this alleged fact in the record in this case.

To the contrary, Minnesota admitted at the oral argument in the Court of Appeals that du Pont was not trying to make cellophane tape. This was in accord with the testimony at the trial of a du Pont chemist to the same effect (PA 87a).

Question 3.

Minnesota contends that it made no concessions that its patented combination was old and disclosed in a prior art patent (Resp. Brief, p. 6). The record shows

the contrary; these are the concessions Minnesota made while successfully preventing a third party (Rado) from getting a German patent on cellophane tape:

> "The French Letters Patent 433,999 [Brandenberger] already precludes per se the subject entirely, because it reveals an insulating band of non-fibrous cellulose skin [cellophane] with a rubber solution. In fact it is a completely analogous utilization, that means an *adhesive tape which—after its application—will not be removed and on the other hand will stick forever to the covered area*; this French insulating band operates exactly as desired by the applicant [Rado] for his suggested tube or hose sealings". (PA 47a).

Minnesota also said (PA 48a):

> "The manufacturing of adhesive tape from non-fibrous cellulose skin with an adhesive rubber-solution spread upon at least *one side* is indeed well known prior to the filing of the patent application [of Rado in 1927]. *The French Letters Patent No. 433,999 published in the year 1912 reveals quite evidently non-fibrous cellulose bases which are covered with a plastic adhesive substance, sticking and adhering without moistening.* The adhesive substance may be formed by a rubber solution. *It is therefore quite obvious that the French Letters Patent reveal a tape of non-fibrous cellulose skin which—at least on one side—is coated by an adhesive rubber solution.*" (italics ours)

Farther, in the German Patent Office, Minnesota made admissions diametrically opposed to the conclusion of the Court of Appeals that the only use of the French Brandenberger patent was "to increase the

insulation feature of cellulose sheets when bonded together by an adhesive substance, which also filled the pores of the sheets" (Pet., 11a). In the German Patent Office, Minnesota, discussing the French Brandenberger patent, admitted:

> "Every handyman knows well that insulating band [tape] does not merely serve electric insulation purposes but can generally be used for sticking and sealing of different kinds". (PA 52a)

These statements are plainly admissions by Minnesota that the subject matter of Drew II was disclosed in the French Brandenberger patent.

Question 4.

Minnesota did not meet the issue set forth in Question 4. It merely stated that its patented combination "meets the test of *A & P* v. *Supermarket*, 340 U. S. 147." (Resp. Brief, p. 6). In its argument it discussed the question of whether or not its patented combination was an "aggregation". (Resp. Brief, p. 11). As stated in *A & P* v. *Supermarket*, *supra*, 151, arguing combination or aggregation "to determine invention results in nothing but confusion."

We reiterate our position that Drew II, even if it were new (which it was not), failed to meet the constitutional standards of invention of *A & P*.

This Court's decision in the *A & P* case, 340 U. S. 147, at 151-152, rejected the ancient belief that patents on combinations of old elements (here cellophane and the adhesive) could be sustained merely because the precise combination was new and useful. It emphasized

that "invention" must also exist. Essential to the validity of such patents is that the lower courts find that the old elements "function" in a new and different way when together than they do separately.

Neither court below made any such finding. The testimony of Richard Drew himself was to the opposite effect. (PA 79a-82a). What the alleged new "result" of Drew II is cannot be discerned in the opinions below, or even from any of Minnesota's arguments.

There was no such new result or functioning of the old parts. Sticky adhesive added to cellophane obviously makes sticky cellophane.

Question 5.

Minnesota avoids Question 5 which relates to the doctrine of equivalents. It seeks to do this by arguing that there was "literal"[3] infringement of the claims in Drew II.

Technical never admitted literal infringement of Drew II; it simply stated some facts as to the compositions of its adhesives. Neither court below made findings of literal infringement. Instead both opinions resorted to the so-called doctrine of equivalents. The Court of Appeals stated: "Even if the equivalent plaintiff used was unknown at the time of Drew's invention,

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[3] When resort is had to the doctrine of equivalents this means that there is no literal infringement, i. e., the literal language of the patent claims does not cover the accused product, but the claims must be stretched by a court to hold the product an infringement.

it was none the less an equivalent and infringed—*Finklestein* vs. *Kress*, 113 F. 2d 431, 433" (Pet., 15a).

So there is no doubt but that the question of *known* equivalency was and is a very real issue here and not "academic" as Minnesota argues (Resp. Brief, p. 13).

Indeed, on December 12, 1957 Minnesota stated in its Petition No. 673, this term, at pg. 20: "The Court of Appeals for the Second Circuit held as recently as August 1, 1957, that an equivalent need not have been known at the date of the patent". It was then referring to the opinion below in this case.

We do not dispute that a *known* equivalent—i. e. known as such when a patent issues—may be held to be an infringement of a patent.

But when *new* equivalents are later discovered and used, an entirely different issue is presented, as is the case here.

The conflict among the circuits on the "vital" question of whether an "equivalent" can be held to be an infringement, if it was unknown when the patent issued has been conceded by Minnesota. In its Petition No. 673, at p. 20, Minnesota urged that this Court resolve the "holdings contrary to each other" among the circuit courts and settle the question of when an equivalent needs to be known—a question it characterized as one which has not been "but should be, authoritatively and definitively settled by this Court". (Pet. No. 673, p. 22).

We join in this request.

Conclusion

For the foregoing reasons and for the reasons set forth in the petition the writ should issue.

Respectfully submitted,

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IN THE

Supreme Court of the United States

OCTOBER TERM, 1957

No. 678

TECHNICAL TAPE CORPORATION,
Petitioner,

vs.

MINNESOTA MINING AND MANUFACTURING COMPANY,
Respondent.

BRIEF FOR RESPONDENT IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI.

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BRIEF FOR RESPONDENT IN OPPOSITION TO PETITION FOR WRIT OF CERTIORARI.

Foreword.

No one of the "Questions Presented" by the petition (p. 2-3) arises from the record in this case. Each question involves a false factual predicate, contrary to the concurring findings of both courts below; and, in a plurality of the questions, contrary to the findings of every other court in which the Drew patent has been litigated.

RESPONDENT'S STATEMENT OF THE CASE.

This case presents the ordinary, usual issues of a patent infringement action. A single patent, which expired October 31, 1956 is involved, *viz.* Drew No. 2,177,627, owned by respondent. Respondent's commercial product

made under the patent is known as "Scotch" brand cellophane tape. Petitioner's infringing product is known commercially as "Tuck" brand cellophane tape.

Petitioner stipulated facts as to the structure of its tape, sales thereof, etc., which clearly show infringement by it (Pet. 14a-15a).

The District Court (Pet. 31a) and the Court of Appeals (Pet. 1a) concurred in finding the patent valid and infringed, and in finding that it had not been misused. These decisions were not in conflict with any prior decision, but were in accord with the prior decisions on the same patent. (*Minnesota Mining & Mfg. Co.* v. *International Plastic Corp.*, DC ND Ill. 1945, 62 F. Supp. 34, affd. 7 Cir. 1947, 159 F. 2d 554; *Minnesota Mining & Mfg. Co.* v. *Pax Plastics Corp.*, DC ND Ill. 1946, 65 F. Supp. 303, affd. 7 Cir. 1947, 159 F. 2d 554; *Minnesota Mining & Mfg. Co.* v. *Neisner Bros. Inc.*, ND Ill., 101 F. Supp. 926 (1951) and 122 F. Supp. 752 (1954).

Every court that has ruled on the patent has not only held it valid but has paid special tribute to it. Infringement has always been found, and, as petitioner alleged in its complaint, by structures "substantially identical with or not materially different from" petitioner's tape (Pet. 14a footnote).

Petitioner's allegation of misuse of the patent and "unclean hands" in the instant case was also rejected, both by the District Court (Pet. 49a-50a) and by the Court of Appeals (Pet. 17a-30a).

Before the courts below, on the "misuse" and "unclean hands" defenses*, petitioner cited Section 3 of the Clay-

* The "misuse" pleaded by plaintiff in its reply to the counterclaim is set forth in footnote 6 of the Court of Appeals opinion (Pet. 17a).

ton Act (15 U.S.C., Sec. 14). That is the only section of the anti-trust laws which petitioner has heretofore contended was violated by respondent. The Court of Appeals rejected such defense, saying (Pet. 28a-29a):

> "And there is no proof that defendant violated Section 3 of the Clayton Act (15 USC Sec. 14). In fact the proof is to the contrary. The defense of 'misuse' by defendant of its Drew II patent, appears to be something that plaintiff sought in vain to construct, in order to escape the consequences of its own deliberate and profitable infringement."

Here petitioner shifts to a citation of Section 13(e) of 15 U. S. Code (an amendment of the Clayton Act by the Robinson-Patman Act), apparently abandoning its earlier charge of violation of Section 14 of 15 U. S. Code. Petitioner cites no record support for its charge that respondent violated Section 13(e) of 15 U. S. Code, and its assertions have no basis in the record. As in the courts below, petitioner seizes upon the vehicle of alleged misuse by respondent "in order to escape its own deliberate and profitable infringement" (Pet. 29a), but this time with reliance on a different section of the statutes.

The petitioner incorporates in each of its questions factual postulates which are not supported by the record, and which are opposed to the concurring findings of the District Court and the Court of Appeals. Also it asks this Court to rule *for the first time* on questions not raised by it before the courts below.

THE "QUESTIONS PRESENTED" DO NOT ARISE.

Question 1.

Question 1 presupposes "Agreements with wholesalers (dealing in both its (respondent's) patented and unpatented tapes) to sell the patent owner's tapes *exclusively*"

(italics are petitioner's, Pet. 2). There was no such agreement, and even the so-called "select" distributors "did not carry 3M tapes exclusively" (Pet. 27a, *footnote*, last two lines; also see generally Court of Appeals opinion, Pet. 26a-27a, and District Court opinion, Pet. 50a).

Petitioner asserts (Pet. 4-5) that respondent sought exclusive dealing agreements with several wholesalers who "refused such agreements and Minnesota thereafter refused to supply them with any tapes at all". This assertion is contrary to the evidence and is contrary to the findings of the District Court (Pet. 50a) and of the Court of Appeals (Pet. 17a-24a). The seven distributors referred to by petitioner, and the facts in respect to each of them, are discussed fully by the Court of Appeals (Pet. 17a-30a). The District Court observed (Pet. 50a) that "3M distributes its products through upwards of 30,000 outlets" and that out of this "large number" in the "three year period preceding the trial Technical Tape points to seven" who "account for a relatively minutial portion of the total 3M tape business". None of those seven had ever been asked to deal exclusively in respondent's tapes and none was dropped because of failure to so deal.* The Court of Appeals summarized the evidence and the reasons that five of the seven distributors were dropped as follows:

> "A jobber who resorted to the disparagement of defendant's products in order to substitute other and cheaper brands of tape, including infringing brands of tape, where the customer wanted defendant's tapes; a jobber who did not deal fairly with defendant's products in displaying and selling them; a jobber who

* It is a considerable tribute to Minnesota's business integrity that Technical could find nothing more to champion than seven disgruntled distributors, combed out of more than 30,000.

> was more interested in pushing the sales of competitors' products to the detriment of defendant's products; a jobber with only a few customers, who made no effort to sell defendant's product; a jobber who failed so called 'drop shipment' orders to mislead the defendant and thus gain a larger discount; a jobber who was habitually delinquent in paying his bills—jobbers who did any of those things were not desirable distributors of defendant's products and defendant was not required to continue them as distributors." (Pet. 22a-23a)

Respondent's, 3M's, sales to distributors "were not made on any condition that the distributor deal only in 3M tape"; "distributors who purchased 3M tape also purchased tape from others"; "3M made no tie-in sales arrangement with its distributors"; and "no jobber was required to handle any one type of tape in order to purchase another" (Pet. 26a, *footnote*). "3M never had any policy of exclusive distributorship for a given territory" (Pet. 27a, *footnote*).

The record is barren of tie-in arrangements, exclusive distributorships, or disproportionate service among distributors.

Question 2.

Like Question 1, Question 2 (Pet. 2) does not emerge from the record. The petitioner refers to the Brandenberger French patent, which the District Court fully analyzed and found wanting as prior art (Pet. 40a-43a). The Court of Appeals affirmed (Pet. 10a). In a footnote the Court of Appeals (Pet. 10a) merely called attention to the fact that its determination of affirmance coincided with the view of the Court of Appeals of the Seventh Circuit, to the effect that a similar United States Brandenberger patent "did not in any way anticipate the disclosures" of Drew.

This is not undue procedure on the part of the court, as petitioner implies (Br. 14-15)*, but rather diligence.

Question 3.

Question 3 (Pet. 2) likewise presumes a fact not true. The respondent made no "concessions that its patented combination was old" and did not concede that it "was disclosed in a prior art patent".

In opposing a certain Rado application in Germany, the respondent asserted that Rado's disclosure was like the French Brandenberger patent and could not be amended after "Scotch" brand cellophane tape was on the market in Germany to convert the Rado application into a disclosure which would include respondent's pressure-sensitive cellophane tape (DA 275a-281a). There were no concessions and no admissions against interest (Pet. 43a).

Question 4.

This question is based upon a distortion of the facts, as shown by the decision of the District Court (Pet. 33a-37a) and that of the Court of Appeals (Pet. 8a-10a). The combination of elements in the patented tape "cooperates with each other so as to produce a new and useful result", a "new article", which "contributed something not had before" (Pet. 8a). This meets the test of *A. & P. v. Supermarket*, 340 U.S. 147. The "conjunction or concert of known elements * * * exceeds the sum of its parts" (340 U.S. 152).

---

* Petitioner says that the Court of Appeals "somehow obtained a brief Minnesota had filed in the 7th Circuit" (Pet. 14), implying that there is something mysterious about how the Court found a copy available. While we do not know, we would suppose that the Court asked the Clerk of the Seventh Circuit to send it a copy, or else referred to a copy in one of the libraries where they can be found.

As the District Court said: "It may be that Drew employed a backing with non-fibrous surfaces contrary to the precepts of the art precisely because he was 'more of a cook than a chemist'. That a person having ordinary skill in the art would 'know better' than to attempt it does not negative patentability" (Pet. 36a-37a).

The patentee of one of the prior patents (Brandenberger), heavily relied upon by plaintiff, "failed to discern in his own patent what plaintiff's expert now claims was apparent to anyone ordinarily skilled in the art" (Pet. 42a).

The aggregation argument was first raised in the *International* case (cited *supra*) and was rejected there. It has been raised and rejected several times since, with no dissents. It is not a question to occupy the energies of this Court.

Question 5.

This question presupposes that the holding of infringement depends on an application of the doctrine of equivalents. This is incorrect. Claims of the Drew patent in suit, directed to transparent tape, of which claim 4 (Pet. 7a, *footnote*) is illustrative, are literally infringed by the transparent "Tuck" cellophane tape*, whether made with a rubber-resin adhesive (Pet. 14a, *footnote*; paragraph 5 of the Agreed Statement) or with "a polyvinyl ether rather than rubber and resin" (paragraph 9 of the Agreed Statement, Pet. 14a, *footnote*).

---

* "If accused matter falls clearly within the claim, infringement is made out and that is the end of it." **Graver v. Linde**, 339 U. S. 605, 607 (1950).

So long as there is literal infringement by both types of tape of such typical claims as 4 and 10 (Pet. 7a), it is unnecessary to determine whether resort to the doctrine of equivalents is necessary to find infringement of some other claim (Pet. 52a).

Hence, like Questions 1, 2, 3 and 4, Question 5 does not emerge from this record.

ARGUMENT.

From "Respondent's Statement of the Case", above, it is shown that none of the "Questions Presented" (Pet. 2-3) has a factual foundation in the record. Even by incorporating into the questions facts which do not exist and assumptions contrary to fact, the petition would raise merely settled points of law recognized by the courts. None require any further elucidation. Even were this not so, the present action presents no occasion for discussion of those questions because none arise from the facts proved and found herein.

Even on the assumption that the record supports the questions, there is no diversity of opinion between circuits as to either the validity or infringement (by substantially identical structures) of the Drew patent in suit; there is no conflict with any decision of this Court*; there has been no departure from established judicial procedure; there is no question of public importance to be resolved.

The only parties in interest are private litigants. The sole remaining question in the case is the amount of damages for the "wilful", "deliberate" (Pet. 16a-17a) infringement of a patent which expired over a year ago.

To escape its premeditated infringement, petitioner charged misuse of the patent. The District Court found that respondent did not misuse its patent. Petitioner ignores the affirmance of the trial court's findings by the Court of Appeals. Likewise petitioner ignores the provisions of F.R.C.P. 52(a), which Rule has greater application because of the concurrence in fact finding of the

* Petitioner attempts to show a conflict in respect to the doctrine of equivalents, but such doctrine is not involved, for there is literal infringement, as shown, hereinbefore.

courts below. (See *Graver* v. *Linde*, 339 U.S. 605, 609-610).

The petitioner argues (pp. 4-5, 9-10) that the Court of Appeals has decided a question of law relating to misuse of patents in conflict with decisions of this Court and those of other circuits. The Court of Appeals did not so decide. It recognized the law applied in the cases to which the Petition refers (it cited two of the four cases relied upon in the Petition), but found the facts here to be contrary to petitioner's contentions.

The District Court found (Pet. 50a) that respondent's sales efforts were "motivated solely by honest business considerations in no way related to an attempt to extend the Drew patent". This statement is equally true in respect to the present emphasis on alleged misuse, that is, disproportionate service among jobbers (15 USC 13c) rather than tie-ins, restrictions, and exclusive arrangements (15 USC 14) previously urged.

There was no showing that disproportionate services were afforded to any of the industrial distributors. Moreover, respondent sells many tapes for industrial uses,—the patented tape here involved contributes but a minor part of such sales (R. 3874-6). Even had there been any disproportionate furnishing of services in the training of salesmen, suggestions as to possible uses for various tapes, suggestions as to how such tapes could be most efficiently applied, etc.,—none was shown—still such would not have had any significant relationship to the patent in suit and would constitute neither use nor misuse of the patent.

Petitioner's argument of disproportionate services not only is unsupported by the evidence, but there is not shown to have been any connection or relationship to the patent, even assuming the existence of disproportionate

services. Both Courts below held that no showing of misuse or unclean hands had been made.*

The foregoing discussion relates to Question 1. The remainder of the five questions relate only to the validity and scope of a now expired patent.

Question 2 does not exist, for the very sound reason that the Court of Appeals stated adequate grounds, in affirmance of the District Court, that the Brandenberger patent is not anticipatory. (C.A. 2 Opinion, Pet. 10a; D.C. Opinion 40a-43a). It was not a denial of due process (Pet. 2) for the Court of Appeals to compare its conclusion in respect to Brandenberger with the decision of a coordinate court on a related matter.

Here, again, all reasons for certiorari fail.

Question 3 answers itself. If, as a fact, the patented combination was old, and respondent had so conceded, that would have ended the matter. But, as shown in respondent's statement of the case, and as found by the Courts below, such concession was not made (Pet. 43a). The question does not arise from the record, and furnishes no basis for the writ.

In Question 3, respondent's invention is referred to as a "patented combination" (Pet. 2). In Question 4, the same patent is charged to be an aggregation. But the very

* Petitioner's contention of unclean hands against respondent takes on a rather ludicrous flavor when it is noted, as the Court of Appeals has held (Pet. 16a), that petitioner, in perpetrating its "willful" and "deliberate" infringement, "persuaded an employee of Minnesota's (a quality control man) in May 1951 to get Minnesota's 'standard books' and advised him to keep from his employer the fact that he was to enter plaintiff's employ."

case cited in the question (*A & P* v. *Supermarket*, 340 U.S. 147) at page 152 defines the invention as a true combination, as both courts below found,—"a combination of old elements which cooperate with each other so as to produce a new and useful result" (C.A. Pet. 8a, citing *A & P* v. *Supermarket*).

There is concurrence with the views expressed by this Court in the *A & P* case; not dissent from them. Hence no reason exists for the writ in respect to Question 4.

Question 5 does not arise from the record. The petitioner declared in its complaint that its tape was "substantially identical with or not materially different from" those previously adjudicated infringements (Pet. 14a, footnote).

Judge Campbell, Judge Bicks, and the Court of Appeals, by its affirmance, held, in respect to the accused synthetic polymer tape, that the polymer was "rubbery" to satisfy claims 5, 6, and 7; that it was "rubber-resin type", as required by claim 8; and that such typical claims as 4, 10, and 15 find response in their requirement of "water-insoluble normally tacky and pressure-sensitive transparent adhesive coating" (Pet. 48a).

Thus, literal infringement was found in respect to the so-called synthetic polymer tape.

No question is here raised about literal infringement by the rubber-resin tape of petitioner.

"If accused matter falls clearly within the claim, infringement is made out and that is the end of it."—*Graver* v. *Linde*, 339 U.S. 605, 607. See also the *Paper Bag case* 210 U.S. 405, 419; and *Smith* v. *Snow*, 294 U.S. 1, 11.

When the accused matter falls clearly within some of the claims in suit, it is academic to inquire whether it necessarily falls within one or more other claims in suit, under the doctrine of equivalents.

Hence Question 5 does not arise. There is no reason to issue the writ to debate academic questions which would not change the ultimate result.

Throughout its petition petitioner makes a number of oblique attacks on the invention of the patent in suit. It makes no attempt to explain why it is that the courts have consistently disagreed with it. Each of the nine Federal judges who have considered the Drew patent have found it valid and have paid tribute to it. Petitioner's assertions are made without record support, and are in the nature of half truths and unfair innuendoes. For example, petitioner implies that any "sticky adhesive" is a "normally tacky and pressure-sensitive adhesive", within the meaning of the Drew patent, which is wholly inaccurate.

Again, it is implied that the patent in suit differs from the subject matter of an earlier Drew patent only in that cellophane is substituted for paper. Again, this is inaccurate, and it ignores or overlooks the fact that the production of a self-adhering packaging tape using a film backing involved many problems and departed completely from the dogma of the prior art, which had always followed the principle of a mechanical interlock of the adhesive (when in the wet state) with the fibers of cloth and paper backings.

For a much fairer characterization of what Drew did, we refer to the opinion of the District Court (Pet. 34a-37a) and to its affirmance by the Court of Appeals (Pet. 8a *et seq.*). Also we refer to the decision of the Court of

Appeals, 7th Circuit, in *Minnesota* v. *International*, 159 F. 2d 554, 556 (col. 2). Also see the decision of Judge Barnes in *Minnesota* v. *Pax Plastics*, 65 F. Supp. 303, 308 (parag. 22). These decisions span a period of more than ten years, in respect to an important patent, now expired.

Petitioner refers to the patent in suit as an "incredible patent". This is a grotesque characterization in view of the extensive and unanimously favorable judicial review this patent has had.

CONCLUSION.

For the reasons stated the writ should be denied.

Respectfully submitted.

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